Paper Book Part No. 96ZY010

# PREFACE

This instruction provides the proper information for set-up and pre-delivery inspection of the Honda Outboard Motor BF15D/BF20D. Proper set-up and pre-delivery inspection are essential for safe and reliable operation.
It is recommended that the Honda Outboard Motor BF15D/BF20D Shop Manual and Owner's Manual be referred to conjunction with these manuals for more detailed set-up instructions.

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# 1. UNPACKING

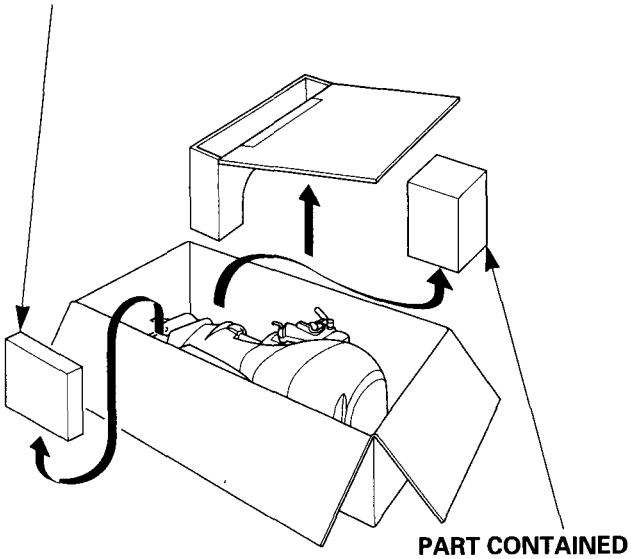
**CAUTION:**

- **Take care not to drop the outboard motor and each component. Do not damage the outboard motor and components, either.**
- **Remove the outboard motor from the packing box with two persons or more.**
- **Hold the carrying handle and the under case handle to remove the outboard motor from the packing box.**
- **Do not hold the engine cover to remove the outboard motor.**

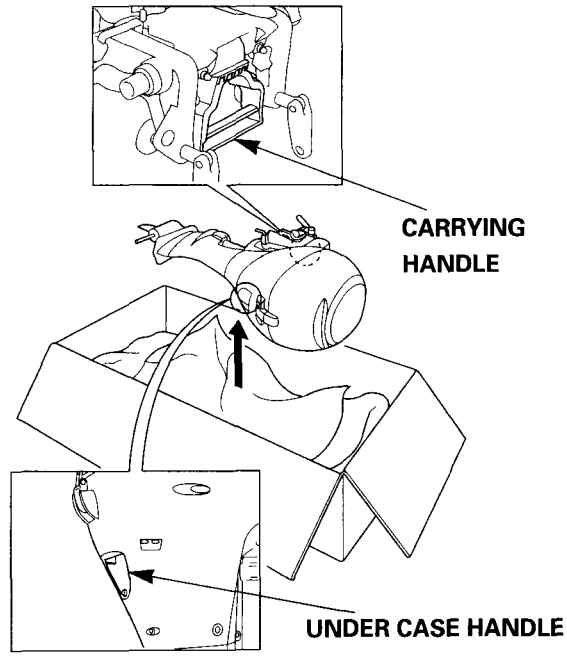
1. Unpack the package. Remove the cardboard partition and parts that come with the outboard motor from the packaging box.

2. Remove the outboard motor from the packaging box with care not to damage the exterior of the outboard motor.
   (The tiller handle type is stored with the handle folded and facing up.)

**PARTS CONTAINED IN THE PACKAGE (EXCEPT FUEL TANK)**



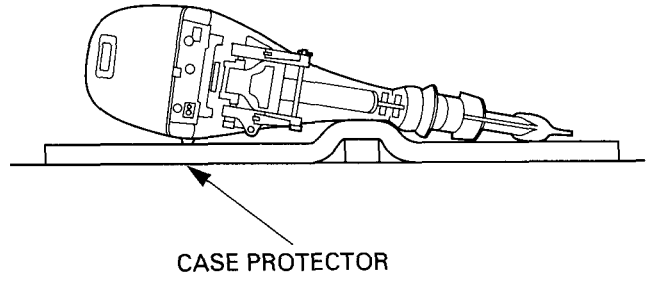
**PART CONTAINED IN THE PACKAGE (FUEL TANK)**



**CARRYING HANDLE**

**UNDER CASE HANDLE**

3. To protect the outboard motor, place an urethane foam sheet or blanket or equivalent material on the floor. Set the outboard motor on the urethane foam sheet or blanket with the case protector toward down.



CASE PROTECTOR

4. Check the parts included in the packing box against the Parts List (P. 33).

# 2. OUTBOARD MOTOR INSTALLATION

NOTE:

- For secure and safe sailing, install the outboard motor on the transom of the boat properly.
  Improperly install outboard motor result in the displaced outboard motor, lack of speed and stability, and poor fuel economy. In addition, the boat does not drive straight unless the outboard motor is installed properly.
- Install the outboard motor that conforms to the boat manufacturer's recommended horsepower.
  Never install an outboard motor which exceeds the recommended maximum horsepower of the boat.
  MAXIMUM HORSEPOWER: BF15D: 11.0 kW (15 PS)
  BF20D: 14.7 kW (20 PS)
- Install the outboard motor so that it is perpendicular to the water surface (i.e. axis of the propeller is parallel with the bottom of the boat surface).
  When the transom angle is less than 4°(Except Power tilt type and Gas-assisted tilt type), 8°(Power tilt type and Gas-assisted tilt type), the outboard motor might not be perpendicular with the water surface.
- Install the outboard motor on the center of the transom securely. Be sure that the boat is well-balanced.
- The BF15D/BF20D outboard motor can be installed on the transom which board thickness is in the range from 35 — 57 mm (1.3 — 2.2 in).

## INSTALLATION HEIGHT CHECK

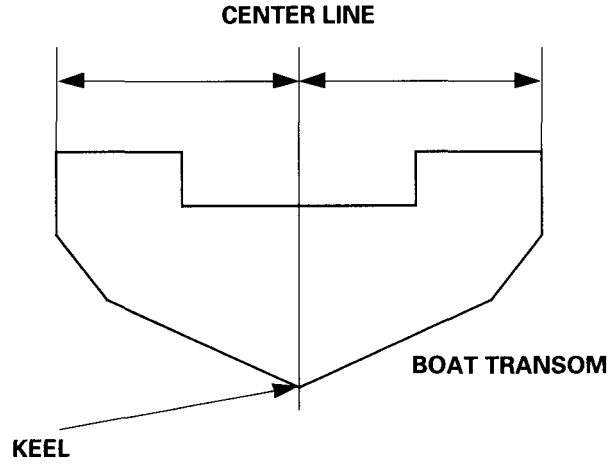
NOTE:

- The outboard motor installation height shall be 0 — 50 mm (0 — 2 in) when the transom height of the boat is subtracted from the transom height of the outboard motor.
- If the outboard motor is installed at too low (deep) position;
  — It reduces operating stability.
  — It reduces high speed sailing performance.
  — Water splashed over the wash board can be jetted out and fan out the stern of the board.
  — It lacks airiness of the boat.
  — It gets heavy steering.
- If the outboard motor is installed at too high (shallow) position, it causes cavitation when sailing on the choppy water or sailing at high speed, and the boat does not sail smoothly.

1. Draw the center line on the boat transom.

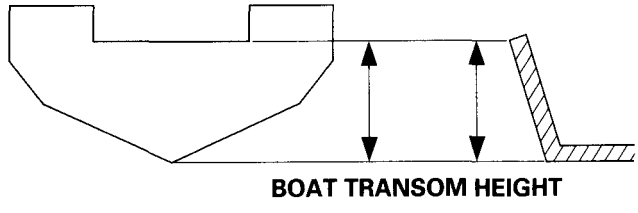
NOTE:

- *The boat is symmetrical with respect to the keel. If the boat has no keel, measure the transom width and draw the center line.*




2. Measure the transom height of the boat.

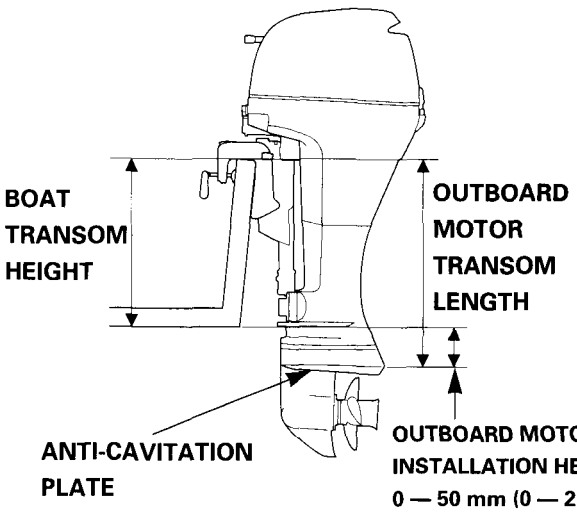
**WORKABLE TRANSOM HEIGHT:**
**S type: 383 — 433 mm (15.1 — 17.0 in)**
**L type: 513 — 563 mm (20.2 — 22.2 in)**
**X type: 653 — 703 mm (25.7 — 27.7 in)**



3. Calculate the outboard motor installation height.
   - Outboard motor installation height must be in the range between 0 ~ 50 mm.
   - Determine the outboard motor installation height by subtracting the boat transom height from the outboard motor transom length.

**BF15D/BF20D TRANSOM LENGTH:**

**S type: 433 mm (17.0 in)**
**L type: 563 mm (22.2 in)**
**X type: 703 mm (27.7 in)**


BOAT TRANSOM HEIGHT
OUTBOARD MOTOR TRANSOM LENGTH
ANTI-CAVITATION PLATE
OUTBOARD MOTOR INSTALLATION HEIGHT
0 — 50 mm (0 — 2 in)

4. If the outboard motor installation height does not conform to the above specification, adjust the transom height of the boat.

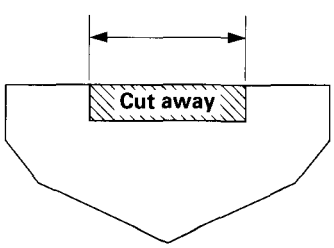
## BOAT TRANSOM HEIGHT ADJUSTMENT

- If the outboard motor installation height is too low, attach wood block(s) to the top of the transom and increase the installation height by the amount it is required.
- If the outboard motor installation height is too high, reduce the height by planing down the top of the transom by the required amount.

NOTE:

- When increasing the installation height, attach the wood block(s) to the transom of the boat securely.
- Be sure to plane off the boat transom by the amount of the outboard motor width.

**OUTBOARD MOTOR WIDTH**




## OUTBOARD MOTOR INSTALLATION

NOTE:

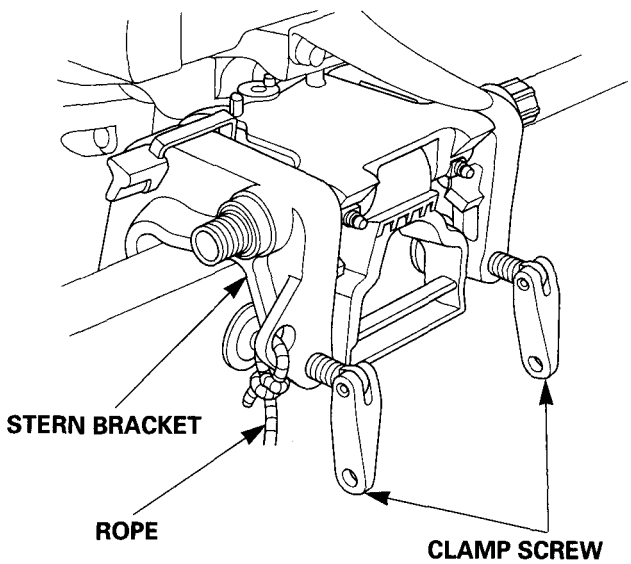
- Attach the steering cable to the outboard motor first, then install the outboard motor on the boat.

1. Set the outboard motor onto the boat transom.

2. Tighten the clamp screws securely and tie a rope through the hole in the stern bracket and secure the other end of the rope to the boat.

NOTE:

- To prevent the outboard motor from falling accidentally, secure the stern bracket to the transom board with mounting bolts, nuts and washers.



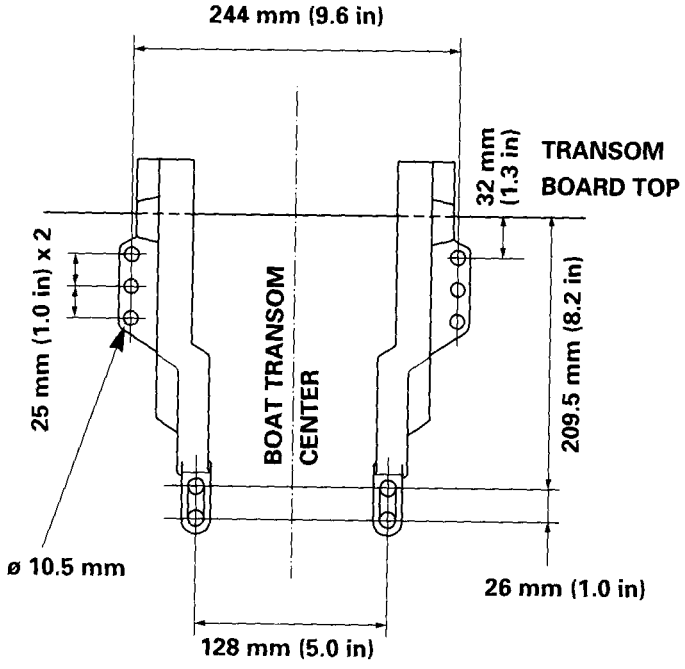
**MOUNTING BOLTS (COMMERCIALLY AVAILABLE) INSTALLATION**

1. Mark two installation hole points (four in total) on the transom of the boat at the right and left mirror image positions with the transom center line between (Except tiller handle S type).
   Mark one installation hole point (two in total) on the transom of the boat at the right and left mirror image positions with the transom center line between (Tiller handle S type only).

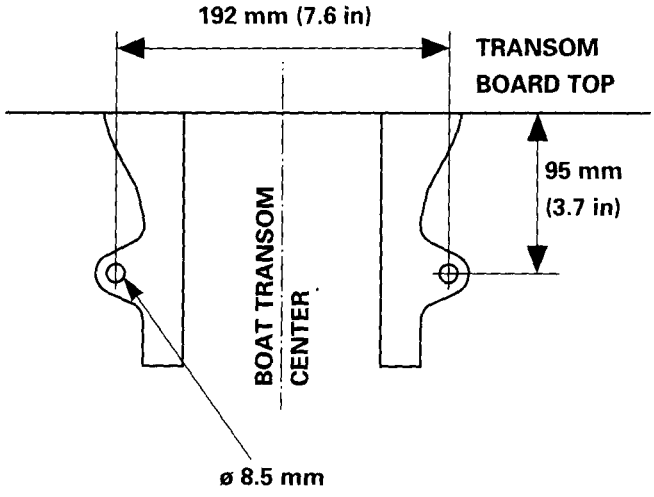
NOTE:

- Do not drill a hole in the wood block attached to the transom of the boat.
- Be sure that the upper bolt holes are not located above the position shown in the drawing (more than 25 mm/1.0 in from top of the transom board).
- Drill the lower bolt holes so that mounting bolts contact the upper end of the stern bracket.

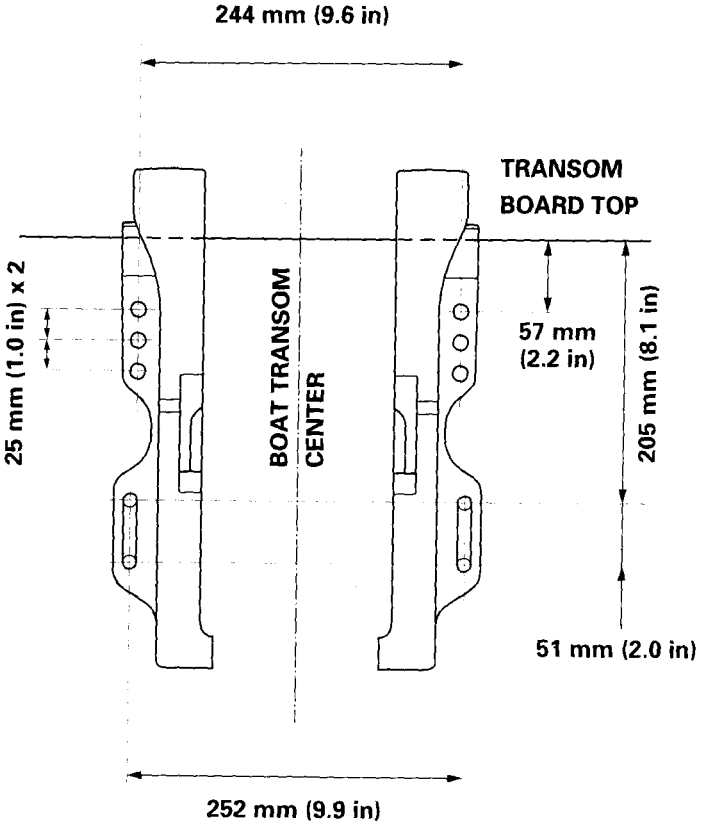
**Except Tiller handle S type, Power tilt type and Gas-assisted tilt type:**




**Tiller handle S type only:**



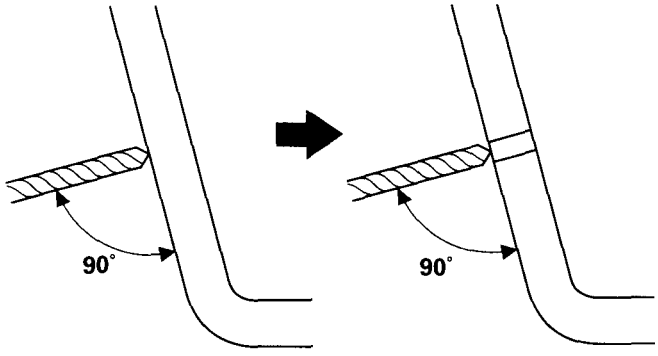

**Power tilt type and Gas-assisted tilt type only:**



2. Drill the pilot holes using a 3 — 5 mm drill.

3. Drill the bolt holes precisely at the marked points with the 10.5 mm drill bit (Except tiller handle S type), or with the 8.5 mm drill bit (Tiller handle S type only).

NOTE:
Drill at right angles to the transom board.

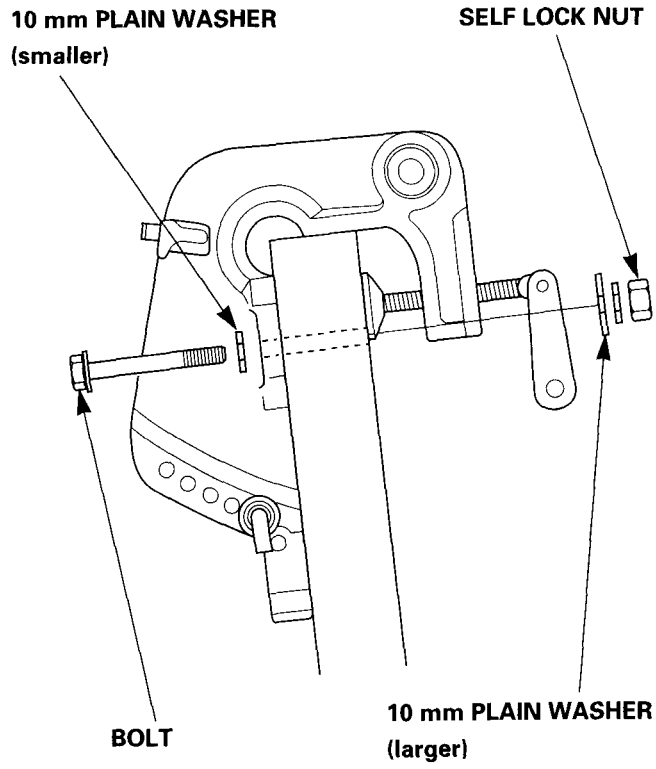



4. Apply sealant (silicone sealant or equivalent) to the mounting bolts and bolt holes.

5. Install the outboard motor on the hull.

6. Except tiller handle S type:
   Secure the outboard motor with the commercially available four 10 mm bolts, eight small washers, four large washers and four 10 mm self lock nuts.
   Tiller handle S type only:
   Secure the outboard motor with the commercially available two 8 mm bolts, four small washers, two large washers and two 8 mm self lock nuts.

NOTE:
Insert the bolts into the bolt holes from outside and tighten with the self lock nuts from inside of the boat.

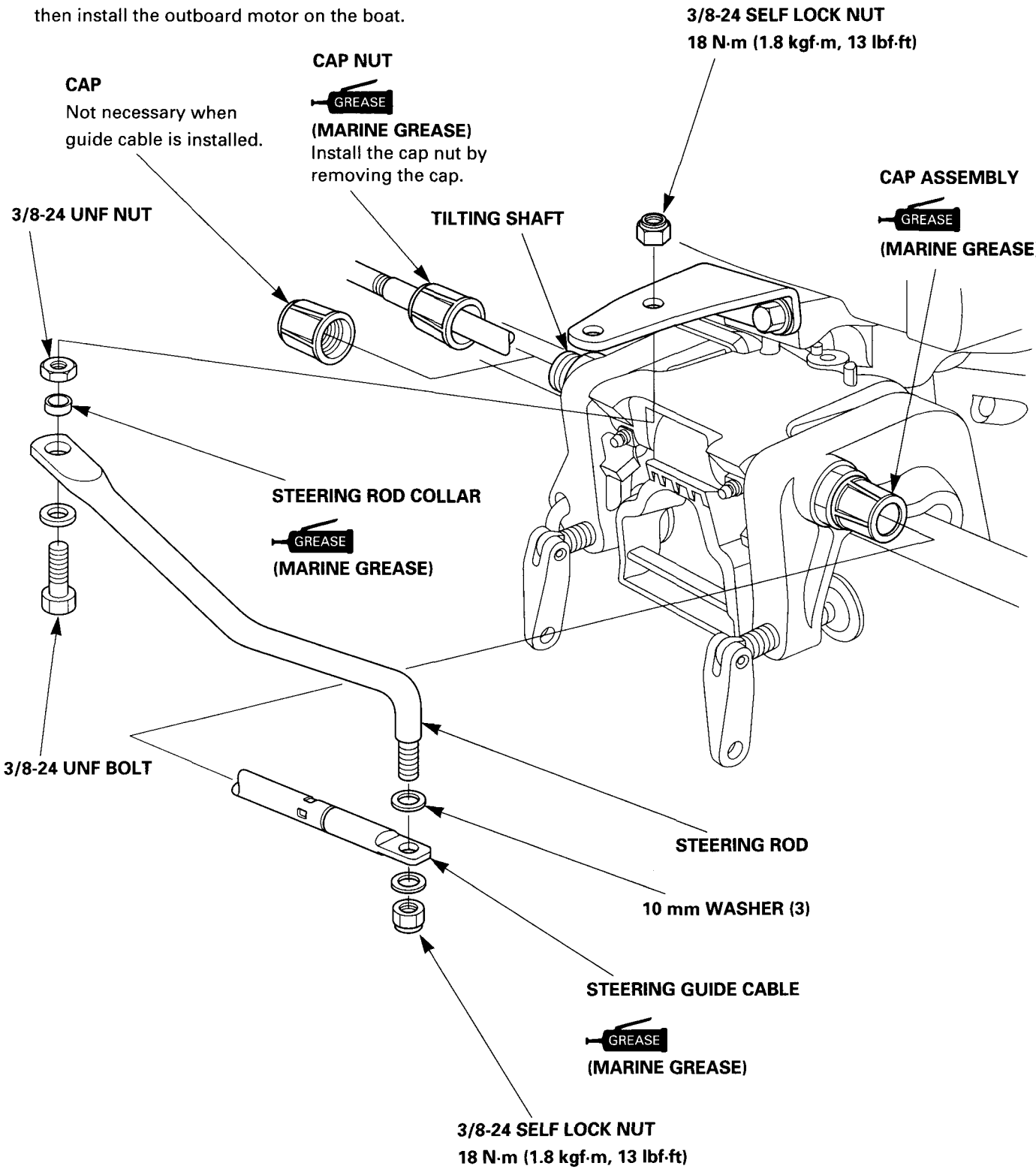


## STEERING GUIDE INSTALLATION

- **PUSH-PULL TYPE**

NOTE:

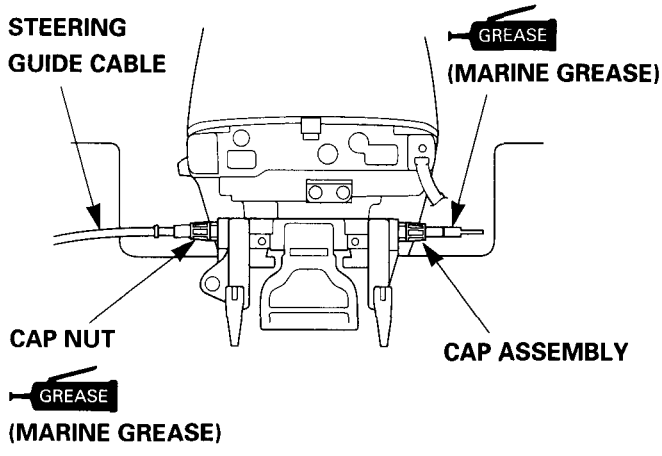
- Attach the steering cable to the outboard motor first, then install the outboard motor on the boat.



1. Remove the cap from the tilting shaft.

2. Pass the steering guide cable through the tilting shaft and tighten the cap nut. Install the outboard motor on the hull.

   NOTE:
   Before installing the steering guide cable, apply marine grease to the sliding surface of the cable and the inner side of the cap assembly and cap nut.



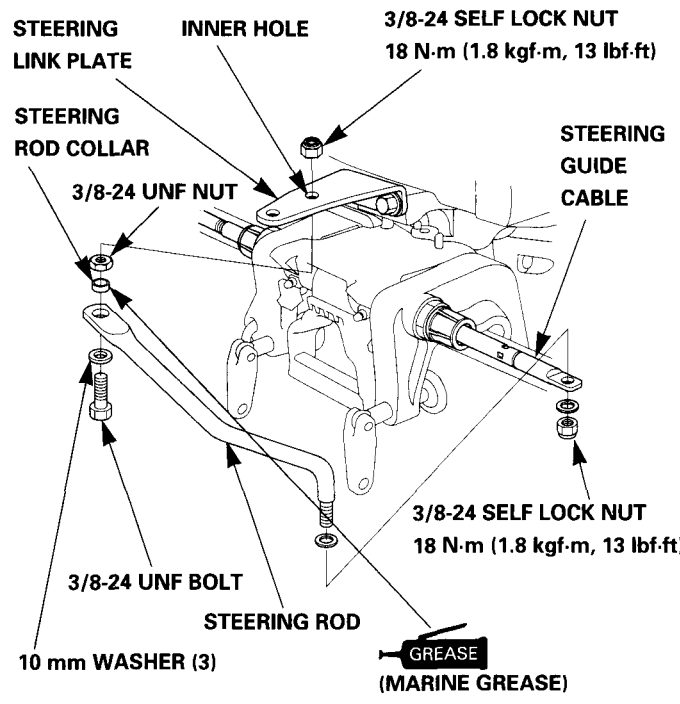

3. Apply marine grease to the sliding surfaces of the steering rod collar and steering rod.

4. Loosely connect the steering rod to the inner hole of the steering link plate using the 3/8-24 UNF bolt, washers, steering rod collar, 3/8-24 UNF nut and 3/8-24 self lock nuts.

5. Connect the steering rod to the steering guide cable using the 10 mm washers and 3/8-24 self lock nut.

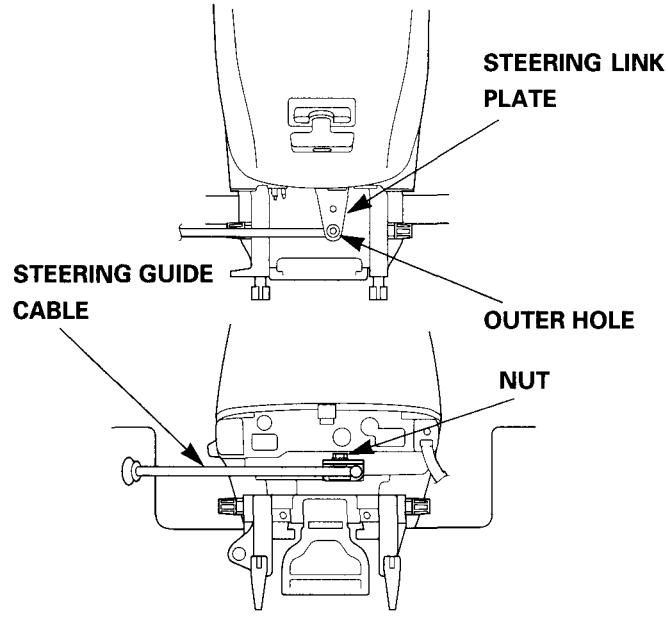
6. Tighten the 3/8-24 self lock nuts to the specified torque.

   **Torque: 18 N·m (1.8 kgf·m, 13 lbf·ft)**




- **BALL-POST TYPE**

- Insert the steering guide cable into the outer hole of the steering link plate and fasten with a nut.

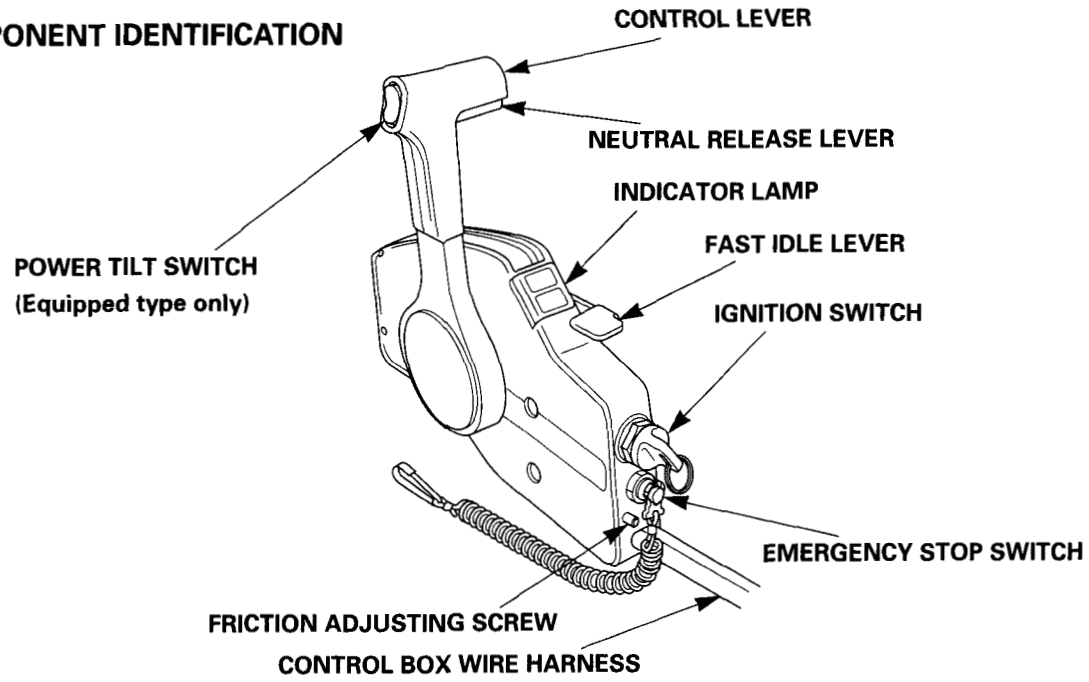



NOTE:

- After attaching the cable turn the steering wheel to the right and left, checking the steering angle. If necessary, adjust at the steering cable side, until both angle are even.
- For further information regarding the steering cable, refer to the boat manufacturer's operation manual.

# 3. REMOTE CONTROL BOX

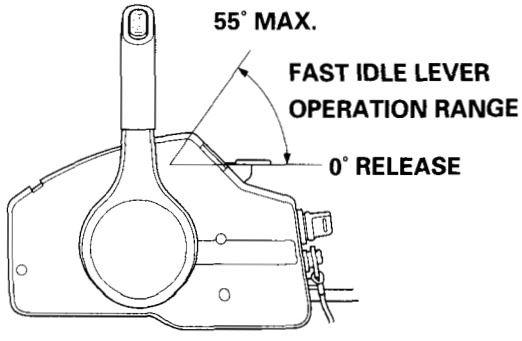
## COMPONENT IDENTIFICATION

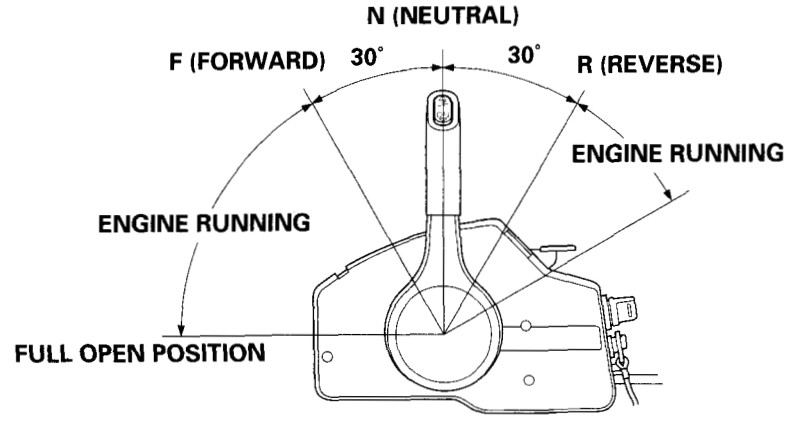



CONTROL LEVER .....Controls gear selection and throttle opening position.
INDICATOR LAMP .....Indicates the operating condition of the outboard motor.
(Engine oil and overheat warning)
FAST IDLE LEVER .....For engine warm-up and throttle opening adjustment when restart the warm engine.
IGNITION SWITCH .....For starting and stopping the outboard motor.
EMERGENCY STOP SWITCH .....Will be activated in case of an emergency stop, or when the operator falls overboard.
FRICTION ADJUSTING SCREW .....Adjust the operating resistance of the control lever.
NEUTRAL RELEASE LEVER .....To move the control lever out of the "N" (NEUTRAL) position, lift this lever up.
CONTROL BOX WIRE HARNESS .....Wire connecting control box to outboard motor.
POWER TILT SWITCH .....Use to tilt up or down the outboard motor.
(Equipped type only)

## OPERATION

- The fast idle lever can be operated provided that the control lever is in the "N" (NEUTRAL) position.
- The engine speed increases with the fast idle lever in the range shown, which promotes warming up of the engine.
- Set the fast idle lever at the "Max." position after warming up and at restart of the engine.
- The control lever can be operated provided that the fast idle lever returned fully to the release position.



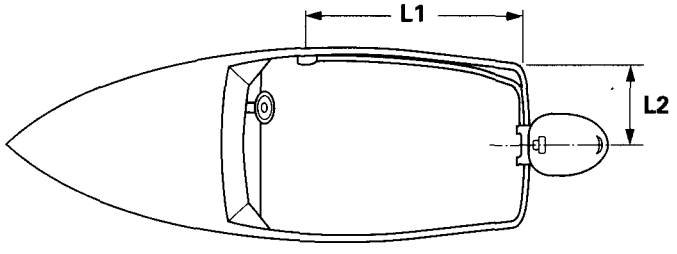
## CONTROL CABLE SELECTION

1. Select a mounting location which allows easy access and unrestricted operation of the control lever, and make sure that there are no other parts obstructing the cables and all components between the remote control box and the outboard motor.

NOTE:
- The remote control box is normally mounted on the starboard side, but can be adapted to a reversed control lever position (port side installation).
- Recommended position to install the control is close to the corner of the front seat with the control lever in the "N" (NEUTRAL) position.
- The bottom of the remote control box should be at the same level as the upper surface of the seat.
- Insert a shim between the box and the installation surface, if the play of the operating lever is insufficient.

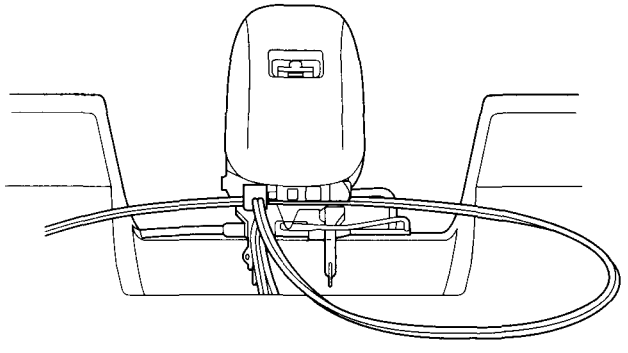
2. Determine and select the remote control cable length.

**CABLE LENGTH: L1 + L2 + 300 mm (12 in)**



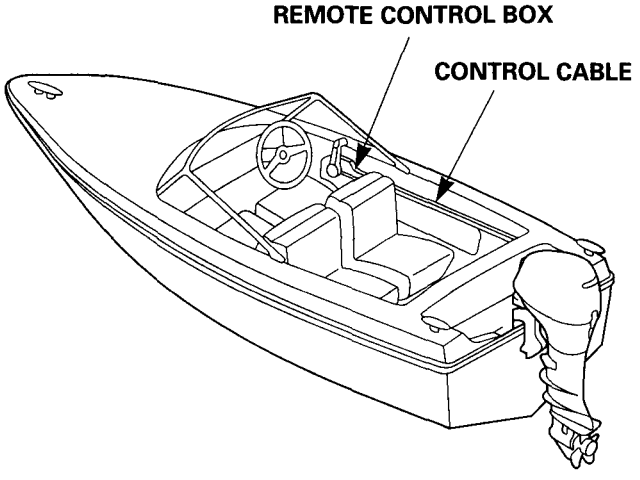

NOTE:
If the cable is routed around one outboard motor to the other side.

**CABLE LENGTH: L1 + L2 + 1,200 (48 in)**



NOTE:
- The bending diameter of a cable must never be less than 400 mm (16 in).
- If the cable is routed in a tight arc, resistance on the control lever will increase, and a smooth throttle operation is no longer possible. This may lead to a loss of control over the craft.
- The cable length must be calculated in such a way that an unrestricted operation is possible, even if the outboard motors are tilted or turned to one side.
- If the cable length is insufficient, the cable must be replaced with the one that has correct length.

**Installation Example**



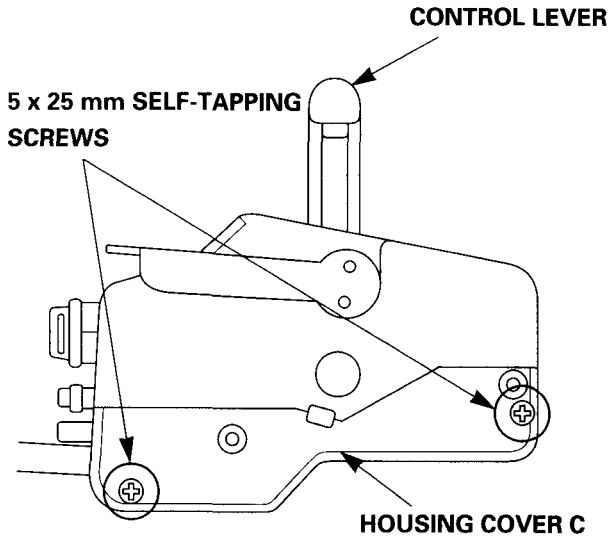

**RECOMMENDED REMOTE CONTROL CABLES:**
**MORSE .....33C (widely used standard cable)**
**or 43XLC cable**

NOTE:
There are two types of cable end screws used: metric thread (M5 x 0.8 mm) and SAE thread (10-32 UNF-2A). Use the SAE type thread only.

## CONTROL LEVER DIRECTION CHANGE

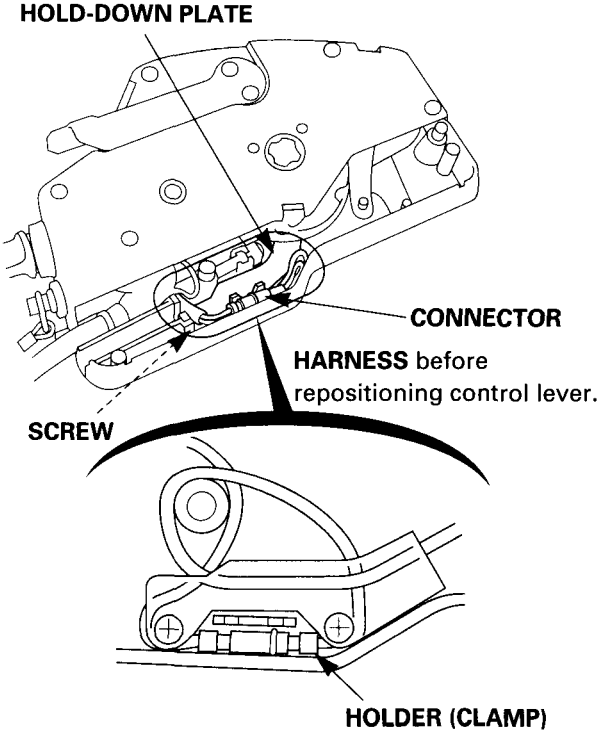
This surface-mounted remote control box can be mounted on the right or left side by reversing the installation direction of the control lever.

1. Remove the two screws and the housing cover C (Power tilt type).

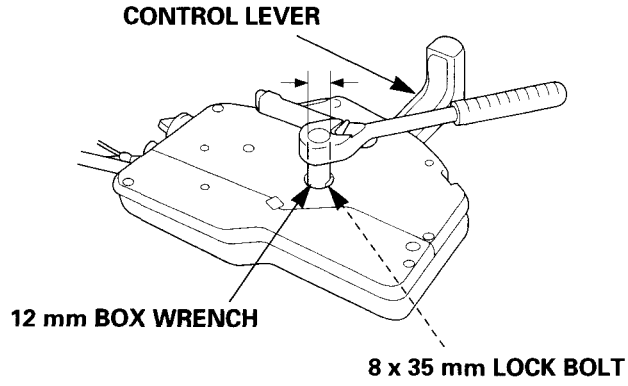



2. Remove the two screws and the hold-down plate (Power tilt type).

3. Disconnect the switch wire connector (Power tilt type).



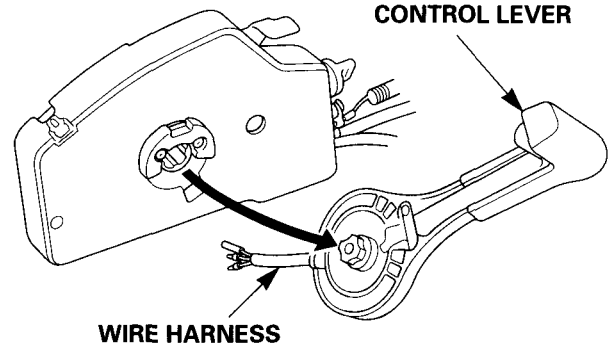

4. Remove the remote control lever's 8 x 35 mm lock bolt using the 12 mm box wrench, and remove the remote control lever.



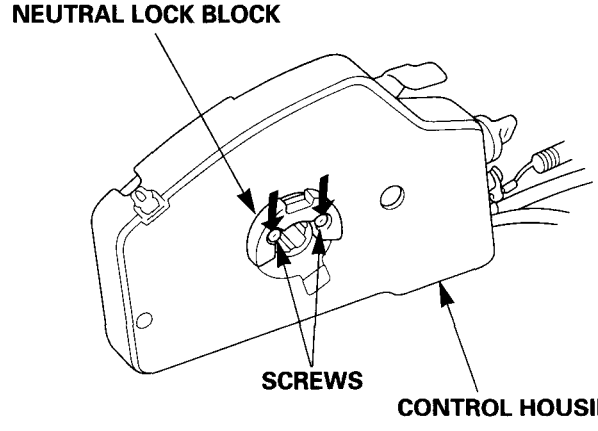

NOTE:
- T type: Take care not to damage the power tilt switch harness (Power tilt type).
- Remove the 8 x 35 mm lock bolt with the remote control lever set in the neutral "N" (NEUTRAL) position.

5. Remove the remote control lever from the remote control box.

NOTE:
Do not damage the power tilt switch wire harness (Power tilt type).

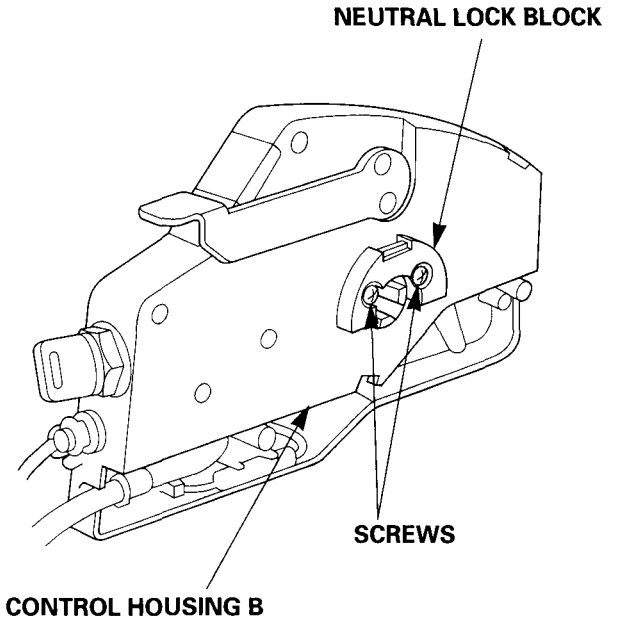



6. Remove the two screws and remove the neutral lock block from the control housing A.



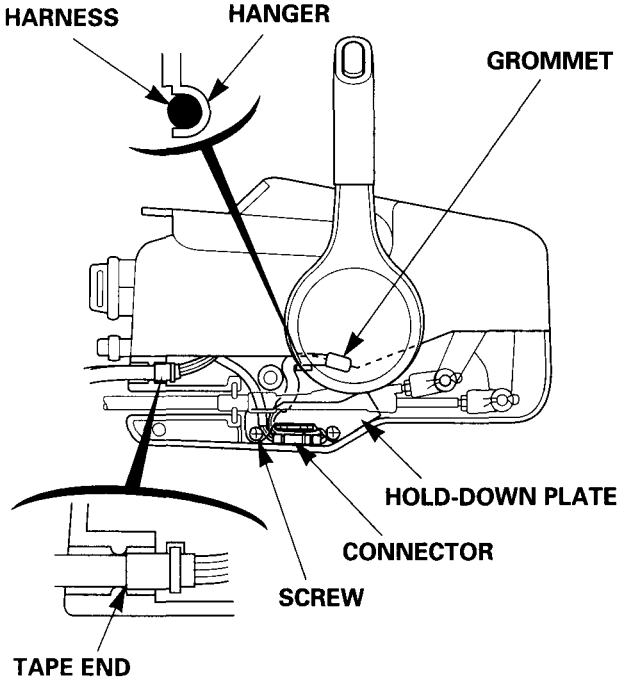
7. Assemble the neutral lock block with the control housing B and tighten the two screws.

**Torque: 2 N·m (0.2 kgf·m, 1.4 lbf·ft)**




8. Connect the switch wire connector (Power tilt type).

9. Set the power tilt switch harness as shown. Install the hold-down plate and tighten the two screws (Power tilt type).

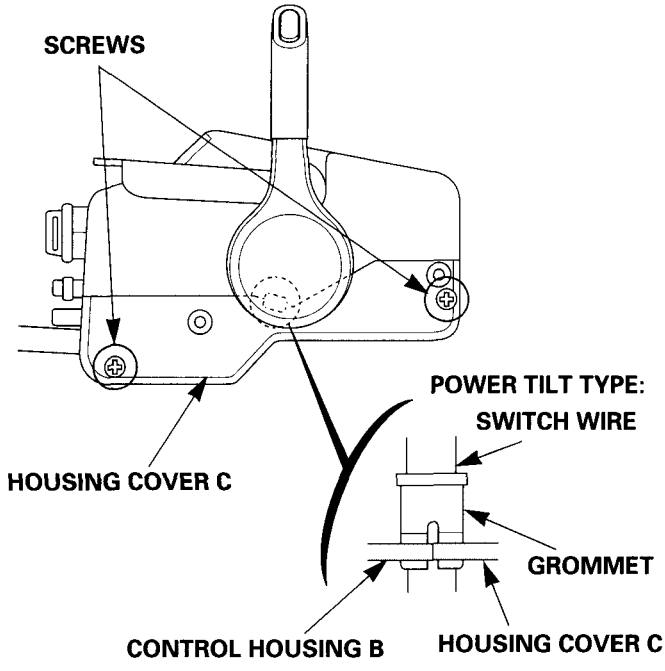



NOTE:
Repositioning power tilt type control lever must be made after installing the control cable (page 13).

10. Tighten the housing cover C with the two screws (Power tilt type).

**Torque: 2 N·m (0.2 kgf·m, 1.4 lbf·ft)**

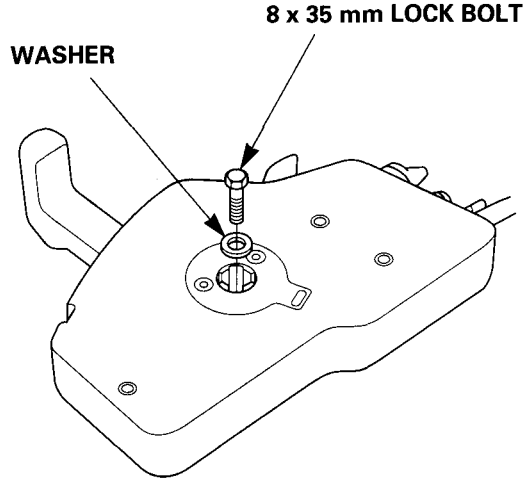
NOTE:
- Set the switch wire grommet by aligning it with the cutout in the control housing B (Power tilt type).
- Do not overtighten the screws.




11. Install the remote control lever and tighten with the 8 x 35 mm lock bolt and washer.

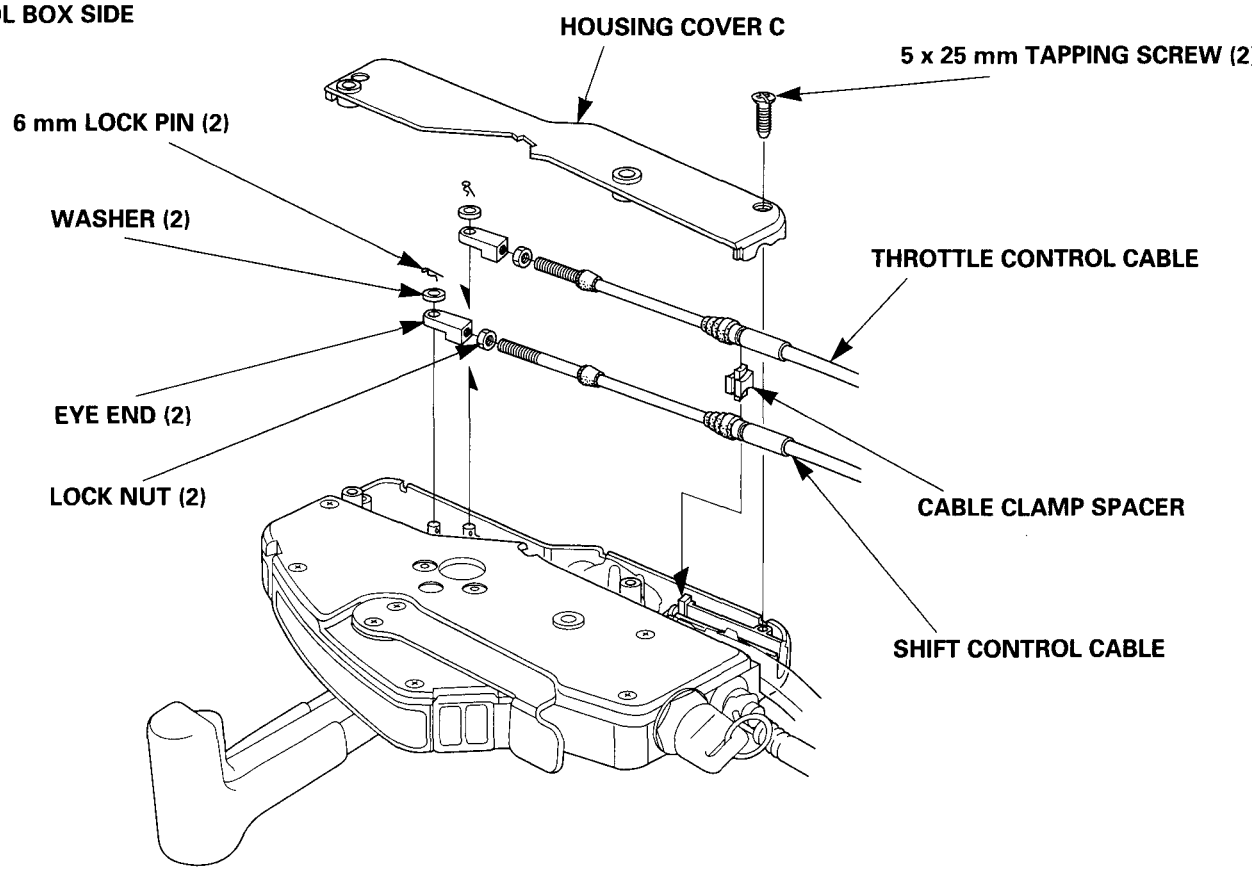
**Torque: 20 N·m (2.0 kgf·m, 14.5 lbf·ft)**

NOTE:
Install the remote control lever by setting it in the neutral "N" (NEUTRAL) position.



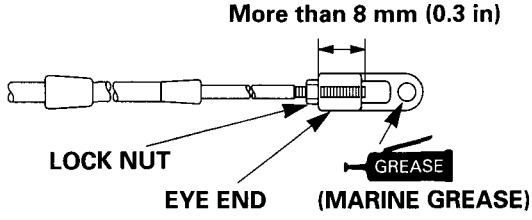
## CONTROL CABLE INSTALLATION

- **CONTROL BOX SIDE**




1. Remove the two 5 x 25 mm tapping screws and housing cover C.

2. Screw the lock nuts and eye ends more than 8 mm (0.3 in) onto the thread of the control cables and tighten the lock nuts securely to hold the pivots. Apply marine grease to the hole of the eye end.



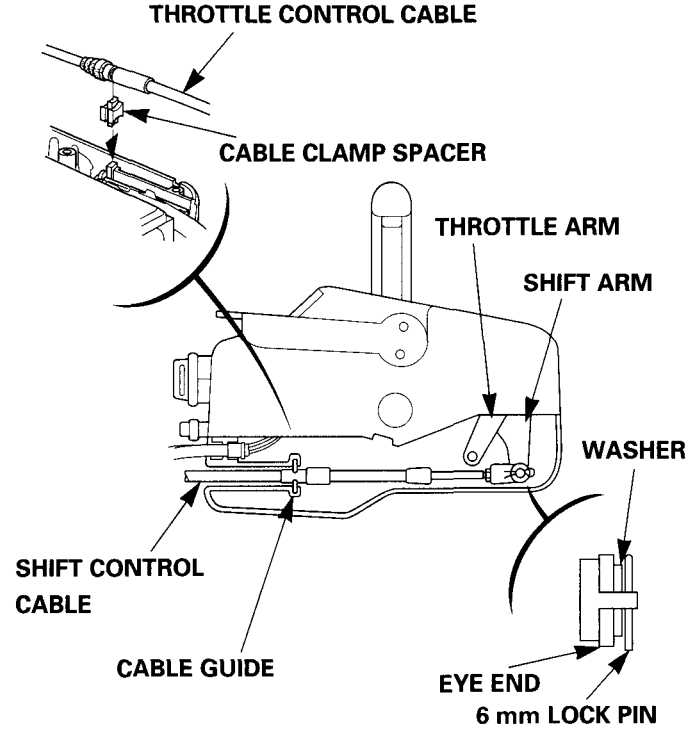

3. Install the shift control cable by aligning the groove of the control cable with the cable guide plate. Then connect the eye end to the shift arm pin using the washer and 6 mm lock pin.

4. Install the cable clamp spacer and throttle control cable by aligning the groove with the cable guide plate. Then connect the eye end to throttle arm pin using the washer and 6 mm lock pin.

NOTE:
Install the washer on the lock pin side.

5. Reinstall the housing cover C and tighten the 5 x 25 mm tapping screws.

**Torque: 2 N·m (0.2 kgf·m, 1.4 lbf·ft)**



• **OUTBOARD MOTOR SIDE**

**a. CONTROL CABLE**

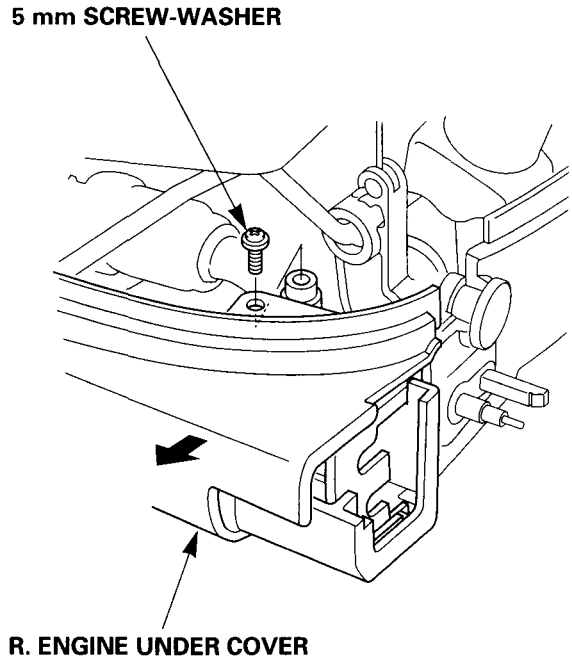
NOTE:

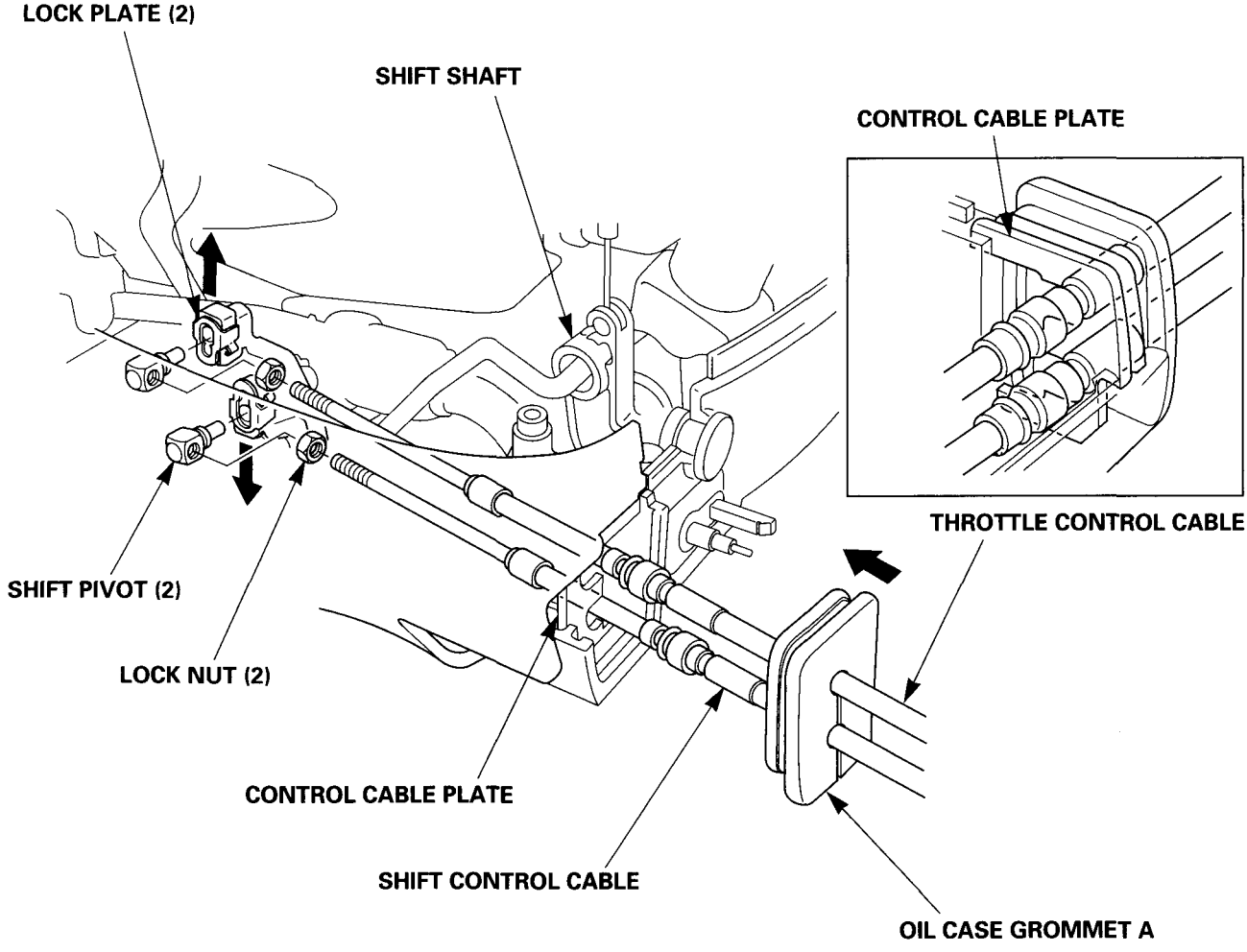
- After installing the control cable to the remote control box, install the control cable to the outboard motor.
- Set the control lever in the "F" (FORWARD) full throttle position and the fast idle lever in the "Release" position, then connect the control cable.

1. Remove the engine cover.

2. Remove the 5 mm screw-washer and remove the R. engine under cover outside about 10 mm (0.4 in). Take care not to damage the cover moving too much.

3. Temporarily install the lock nut and shift pivot on each cable.



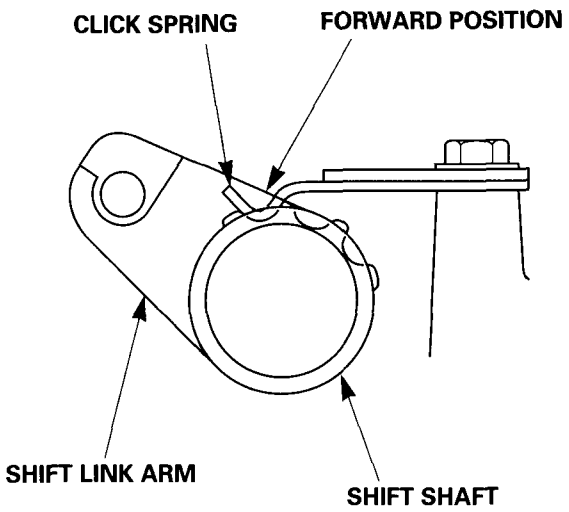



4. Pass the two cables through the gap in the control cable plate to the engine side, then pass the two cables through the slit in the oil case grommet A.

5. Set the groove of each control cable in the cutout in the control cable plate, and set the oil case grommet A in the groove of the R. engine under cover.

NOTE:
The throttle control cable and the shift control cable use the same cables and they look the same. Move the remote control lever to identify each cable and place the throttle control cable upside.

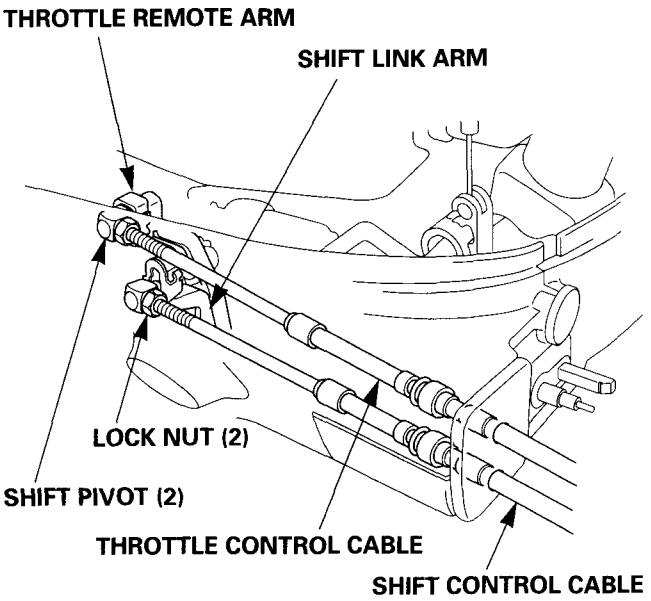
6. Position the shift link arm in the "F" (FORWARD) position, and adjust the position of the shift link arm and the shift control cable. Loosen the lock nut of the control cable and turn the shift pivot in or out to align the pivot pin with the shift link arm hole.




7. Set the throttle arm in the full throttle position, and adjust the throttle remote arm and the throttle control cable.

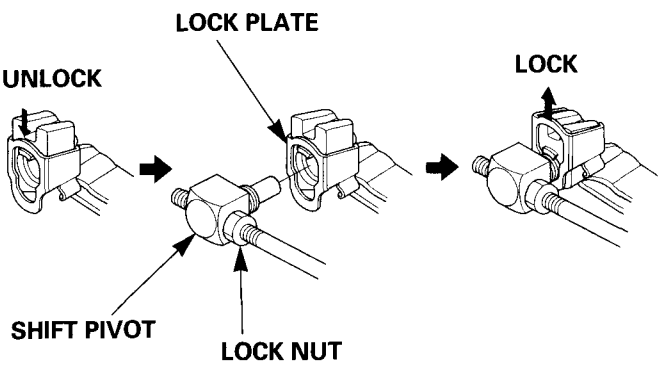
8. Tighten each cable lock nut. Be careful not to kink the cables.

9. Install the pivot pins into the shift and throttle arm holes and lock with the lock plates.

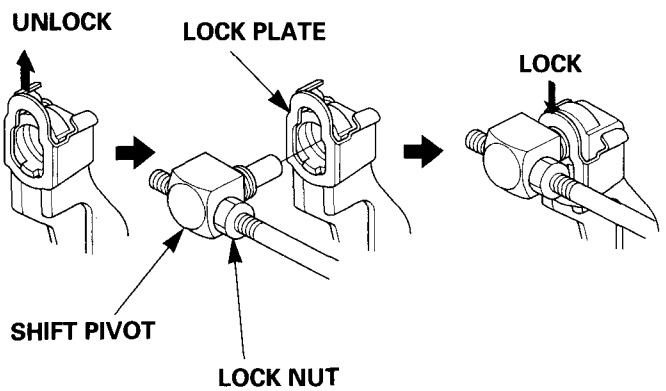



NOTE:
The throttle remote arm lock plate and the shift link arm lock plate are installed in the opposite direction. Be careful of the direction when install them.

- **THROTTLE REMOTE ARM**



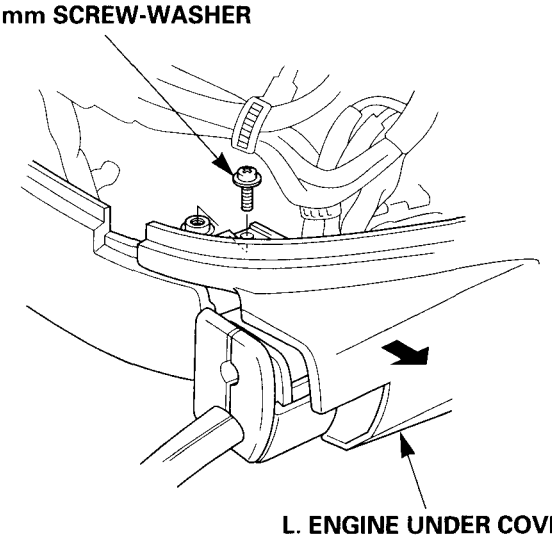

- **SHIFT LINK ARM**



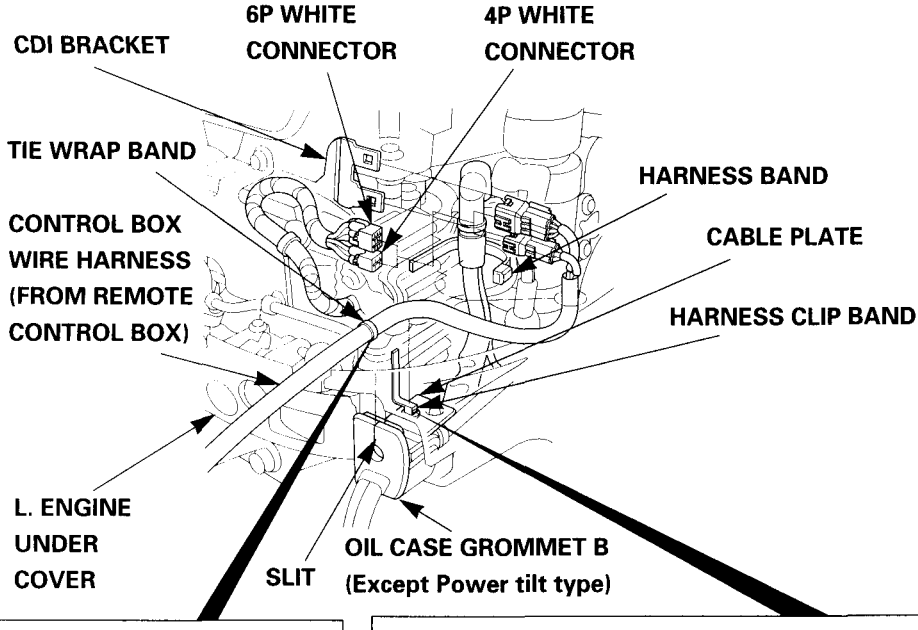

10. Operate the control lever to check for proper operation.

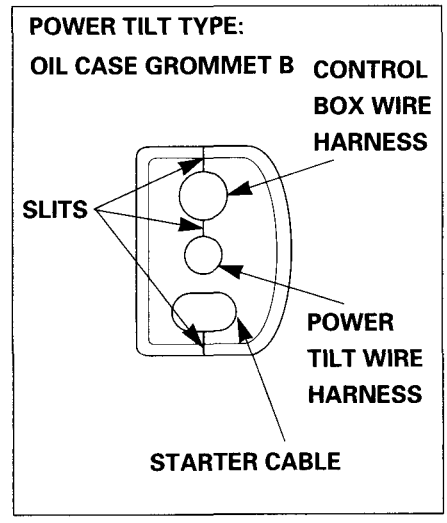
## CONTROL BOX WIRE HARNESS CONNECTION

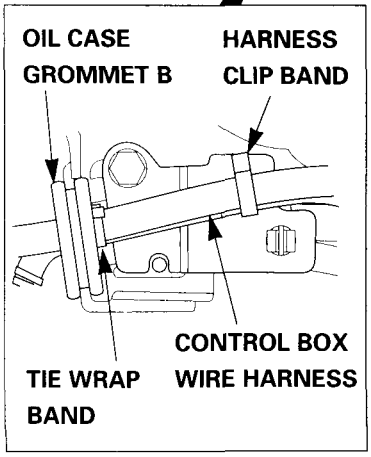
1. Remove the 5 mm screw-washer and move the L. engine under cover outside about 10 mm (0.4 in).
   (Do not move the L. engine under cover excessively as the cover can be damaged.)

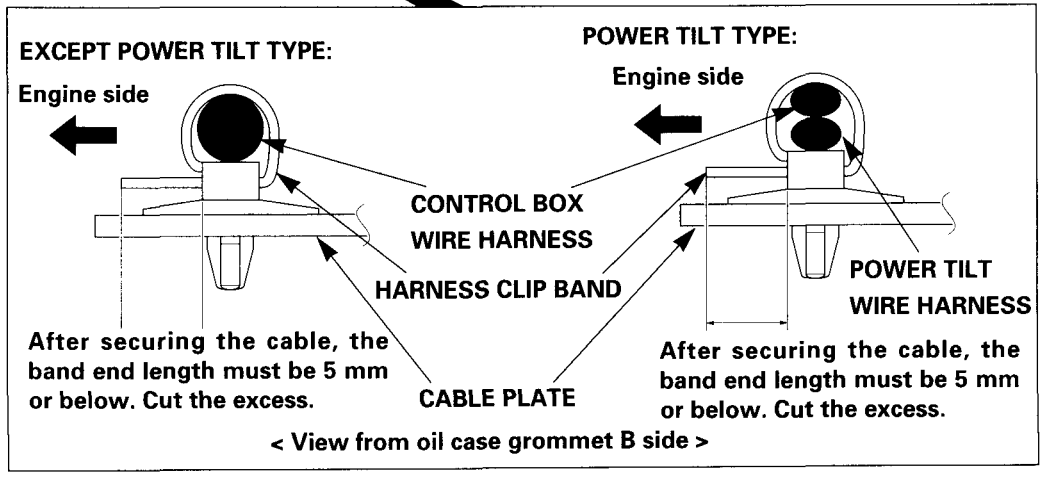



2. Move the upper half of the oil case grommet B to a side and insert the control box wire harness through the slit. Return the oil case grommet B to the original position.
3. Set the control box wire harness in the position where the tie-wrap band gets in contacts with the inner side of the oil case grommet B. Secure the cable with the harness clip band inserted in the cable plate.
4. Cut the end of the harness clip band so the length at the end is 5 mm or below.
5. Connect the cable connectors to the corresponding 6P white connector and the 4P white connector of the engine side wire harness, then install to the CDI bracket.
6. Open the starter magnetic switch harness band. Secure the control box wire harness together with the starter cable using the harness band.
7. Pass the L. engine under cover in the original place and tighten the 5 mm screw-washer securely.



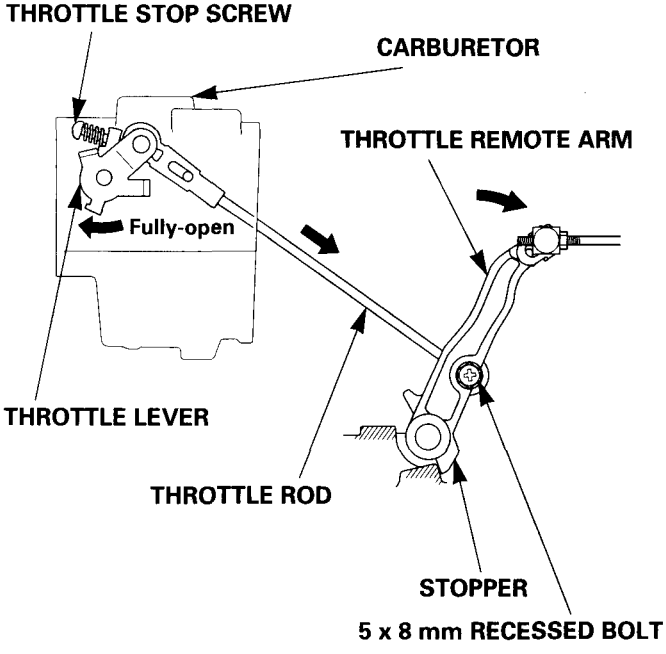



## CONTROL CABLE ADJUSTMENT

NOTE:
Check that the throttle cable and the shift control cable are set in the correct position. If not, adjust the cables with the following procedure.

- **THROTTLE CABLE**

1. Remove the throttle control cable from the throttle remote arm.
2. Loosen the recessed bolt on the throttle remote arm.
3. Pull the throttle rod to the right to make carburetor throttle lever fully-open, and push the throttle remote arm to the right against the stopper.
4. Tighten the recessed bolt securely.

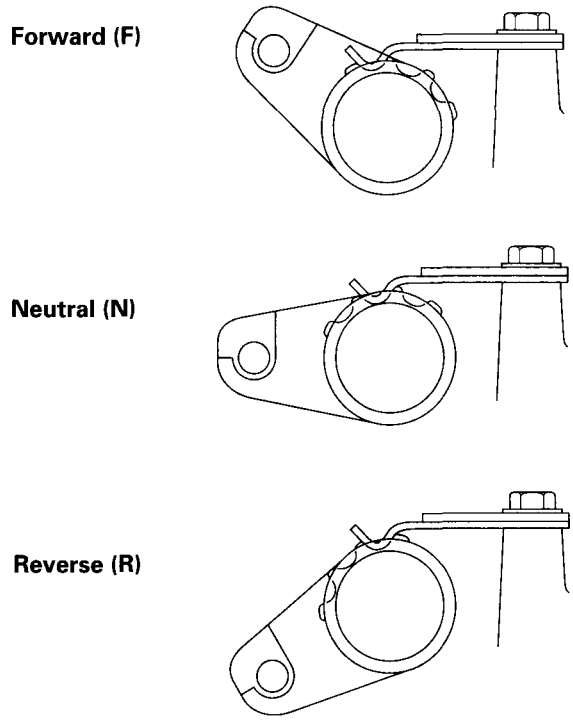



5. Install the throttle remote arm and throttle control cable with the control lever of the control box in the "F" (FORWARD) full throttle position and the fast idle lever in the release position.
   If the installation points are not aligned, install after adjusting the shift pivot of the throttle control cable. (See step 7 on page 15.)
6. Set the control lever in the full throttle position and "N" (NEUTRAL) position and be sure that the carburetor is in the full open and full close positions respectively.

- **SHIFT CONTROL CABLE**

1. Remove the shift control cable from the shift link arm.
2. Set the shift shaft in the "Forward" position and the control lever in the "F" (FORWARD) position.
3. Check the installation points of the shift link arm and shift control cable. If the installation points are not aligned, adjust the shift pivot first, then install the shift link arm and shift control cable. (See step 6 on page 15.)
4. Set the control lever of the control box in the "F" (FORWARD), "N" (NEUTRAL), and "R" (REVERSE) positions respectively, and be sure that the shift shaft is in the corresponding positions of "Forward", "Neutral" and "Reverse", too.

**SHIFT SHAFT POSITION**

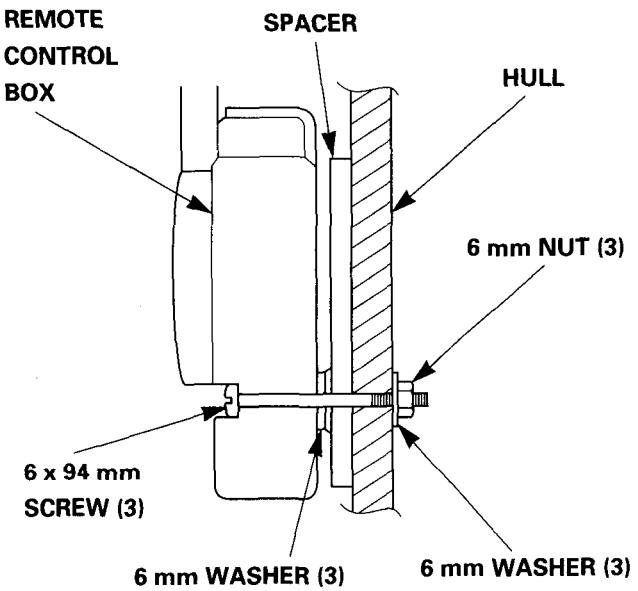



5. If the shift shaft position is not in place where it should be, repeat the step 3 and 4.
6. Move the control lever and check that the shift shaft moves smoothly and securely.
7. Set the R. engine under cover securely, and tighten it with the 5 mm screw-washer.
8. Install the engine cover securely.

## REMOTE CONTROL BOX INSTALLATION

NOTE:

- After the control cable installation and adjustment, install the remote control box to the hull.
- Install the remote control box at the selected mounting location using the supplied parts.
- Set the control lever to the "N" (NEUTRAL) position when installing the remote control box.



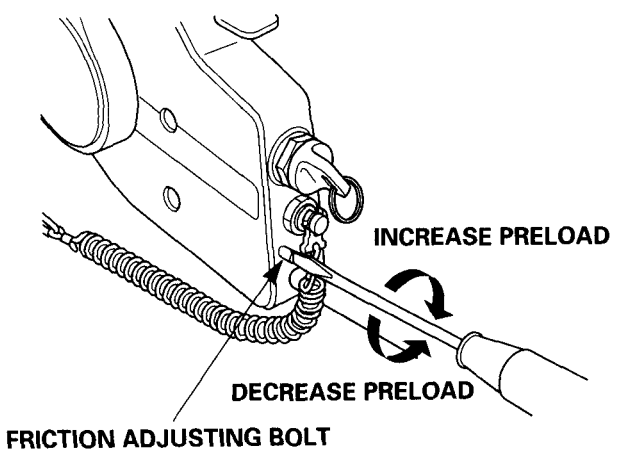

## CONTROL LEVER PRE-LOAD ADJUSTMENT

1. The control lever pre-load can be adjusted by turning the friction adjustment bolt at the front of the remote control box.

2. Turning the bolt clockwise will increase the pre-load, turning it counterclockwise will decrease.

NOTE:

- Do not turn the adjusting bolt more than necessary.




## OPERATION CHECK AFTER INSTALLATION

NOTE:

- Check whether the control cable is adjusted properly and there is no twist or bend in the cable.
- Check the control lever for smooth operation and check the control cable for smooth movement without restriction.

1. Set the control lever in the "F" (Forward) position (approx. 30°) and check whether the shift shaft is in the forward position.

2. Set the control lever in the "F" (Forward) full open position and check whether the carburetor throttle lever is in the full open position.

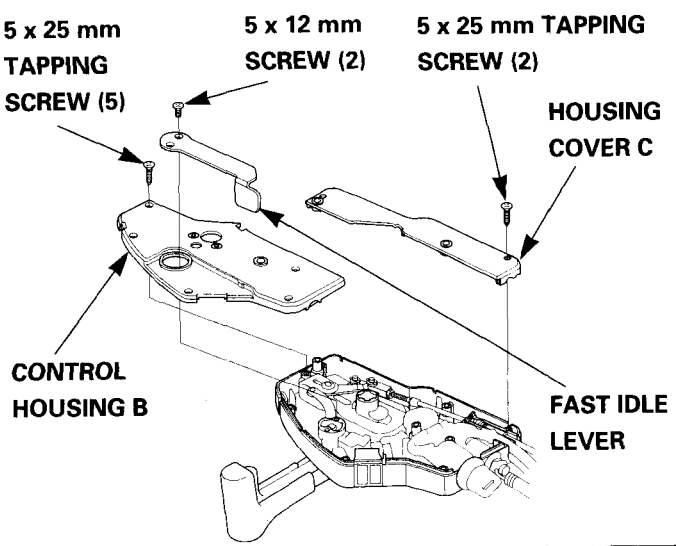
3. Return the control lever to the "N" (Neutral) position and check whether the carburetor throttle lever is in the full close position.

4. If the carburetor throttle lever does not move to the full open and/or full close position, adjust the throttle control cable again.
   - If the carburetor throttle rod and throttle control cable had been adjusted properly, the carburetor throttle lever should automatically move to full open/full close position accordingly by setting the control lever in the fully open/full close position. If the carburetor throttle lever is not in the proper position, adjust as follows.

   -1. Remove the two 5 x 12 mm screws and remove the fast idle lever.

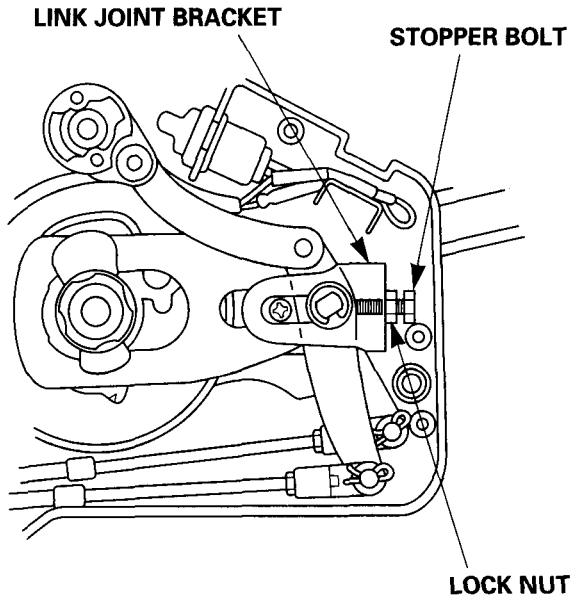
   -2. Remove the five 5 x 25 mm self-tapping screws and remove the control housing B.

   -3. Remove the two 5 x 25 mm tapping screws and remove the housing cover C.



-4. Set the control lever in the throttle full open position.

-5. Loosen the lock nut on the link joint bracket, and adjust by turning the stopper bolt to bring the carburetor to full open.



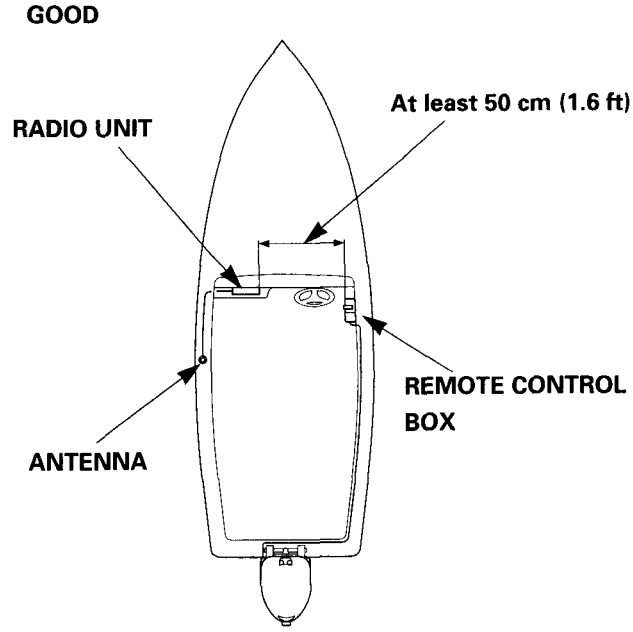

-6. Tighten the lock nut. Install the housing cover C, control housing B and the fast idle lever.

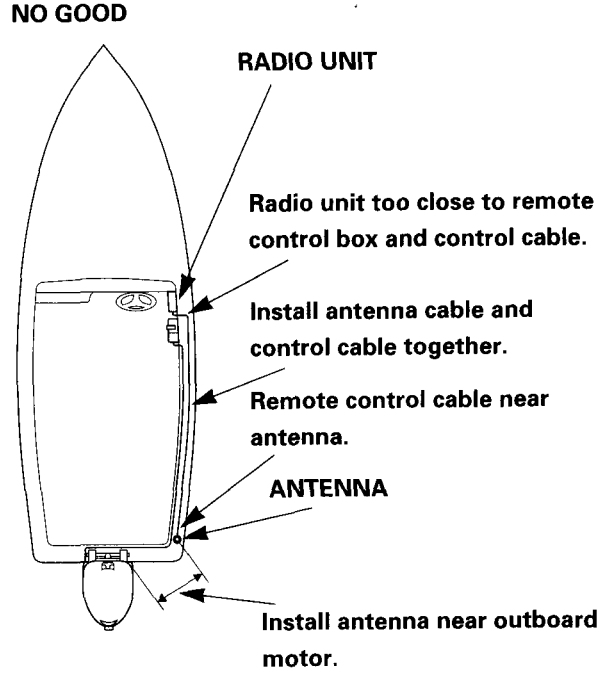
# 4. OPTIONAL EQUIPMENT

## RADIO SYSTEM INSTALLATION PRECAUTION

NOTE:
Radio wave is strong that it may damage the outboard motor. Carefully follow the installation instruction.

- Keep the antenna and the radio unit at least 50 cm (1.6 ft) away from the outboard motor, control cable and remote control box.
- Do not install the antenna cord and control cable tied up.
- Select a radio with its output power less than 10 W.





NO GOOD
RADIO UNIT
Radio unit too close to remote control box and control cable.
Install antenna cable and control cable together.
Remote control cable near antenna.
ANTENNA
Install antenna near outboard motor.

## D-GPS INSTALLATION PRECAUTION

NOTE:
Carefully follow the installation instruction when install a D-GPS.

1. Keep the D-GPS unit and antenna at least 3 m (10 ft) away from the outboard motor.

2. Be sure to connect the ground system to the boat.

## METER

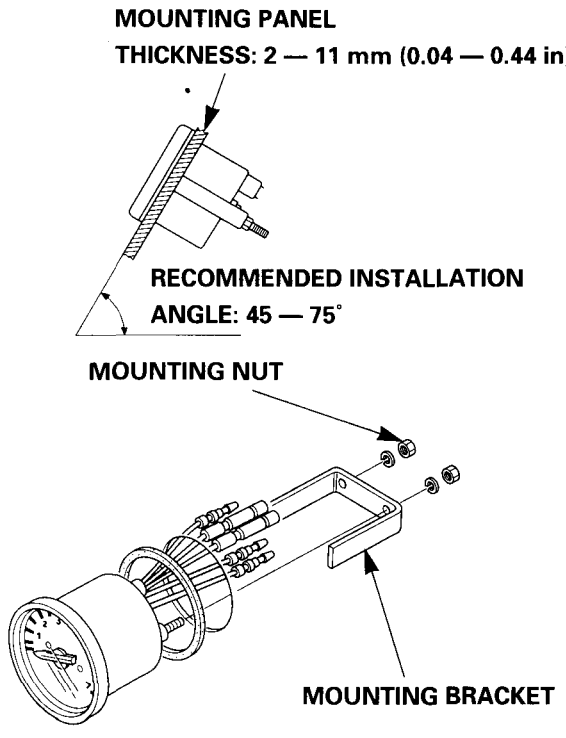
### INSTALLATION

Meters and other instruments should be installed on the dash board. If any other location is selected, it will be necessary to use a mounting plate with a thickness of 2 — 11 mm (0.04 — 0.44 in).

NOTE:
- If the mounting plate thickness exceeds 11 mm (0.44 in), the bracket must be modified accordingly (hour meters up to a thickness of 8 mm can be installed).
- Tighten the mounting nuts evenly on both sides.

**OPENING SIZE**

| Type | Opening Diameter |
|---|---|
| Tachometer | 80.5 mm (3.17 in) |
| Hour Meter | 50.4 mm (1.98 in) |
| Voltmeter | 54.0 mm (2.13 in) |




### METER WIRE HARNESS CONNECTION

Route and connect the wire harness properly as shown in the wiring diagram. Use the genuine Honda wire harness and modify it if necessary.

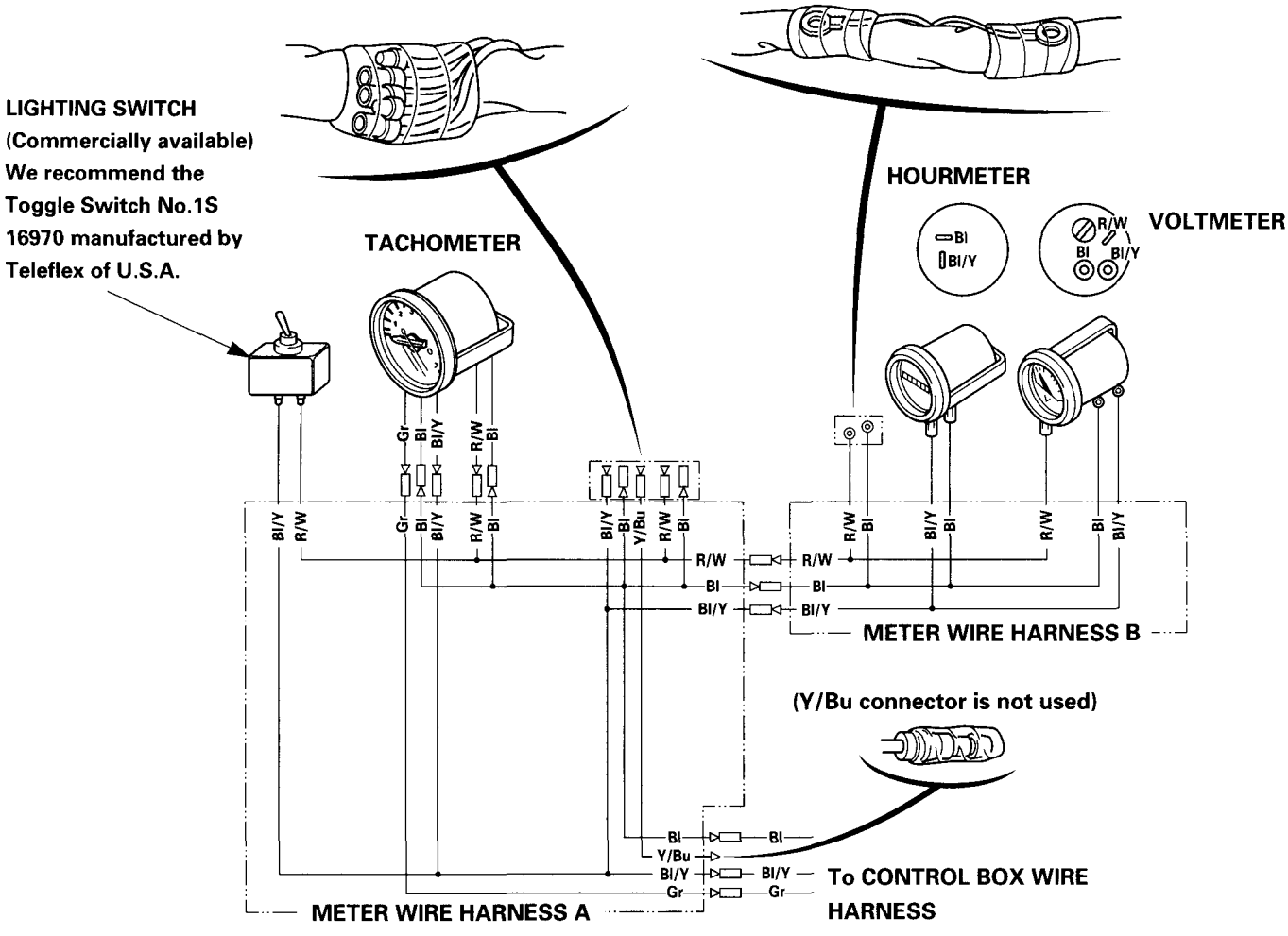
NOTE:
- Stake the lead wire against the terminal securely using the special tool.
- Use the 1.25 mm dia. (AWG #6) lead wire to put them together. Solder the joint section and protect it by wrapping with a piece of insulation tape.

**CAUTION:**
- **First, check whether the wire harnesses are connected as shown in the wiring diagram, then connect the battery and turn the power switch ON to check for proper condition of the electrical parts and wire harness.**
- **Wrap the free terminal with a piece of vinyl tape or equivalent to insulate them securely.**
- **Before reconnecting connectors, check them carefully to make sure that their terminals are not bent, exposed, or disconnected.**
- **If a terminal is oxidized or corroded, remove the oxidation or corrosion with nonconductive plastic scrub pad and contact cleaner before reconnecting it.**
- **Be sure to reconnect connectors by inserting them fully into their receptacles. Check locking connectors to be sure that locking devices are locked in place securely.**
- **Check insulators to make sure they surround their connectors completely. Do not fold up the mouths of insulators.**
- **Before reconnecting wire connectors, check them to make sure that the covers are not torn or broken, and that the gaps of female terminals are not overly expanded and loose.**
- **Do not break the coverings of wire harness. If the covering of wire harness is broken, either repair it with electrician's tape, or replace it.**

## METER WIRING DIAGRAM

Wrap the free terminals with a piece of vinyl tape and hold them onto the wire harness as shown.

Secure the free terminals on the harness by taping them around to prevent them from contacting any neighboring parts and the resulting short-circuit.




| | | | |
|---|---|---|---|
| Bl | Black | R | Red |
| Y | Yellow | W | White |
| G | Green | O | Orange |
| Bu | Blue | Gr | Gray |

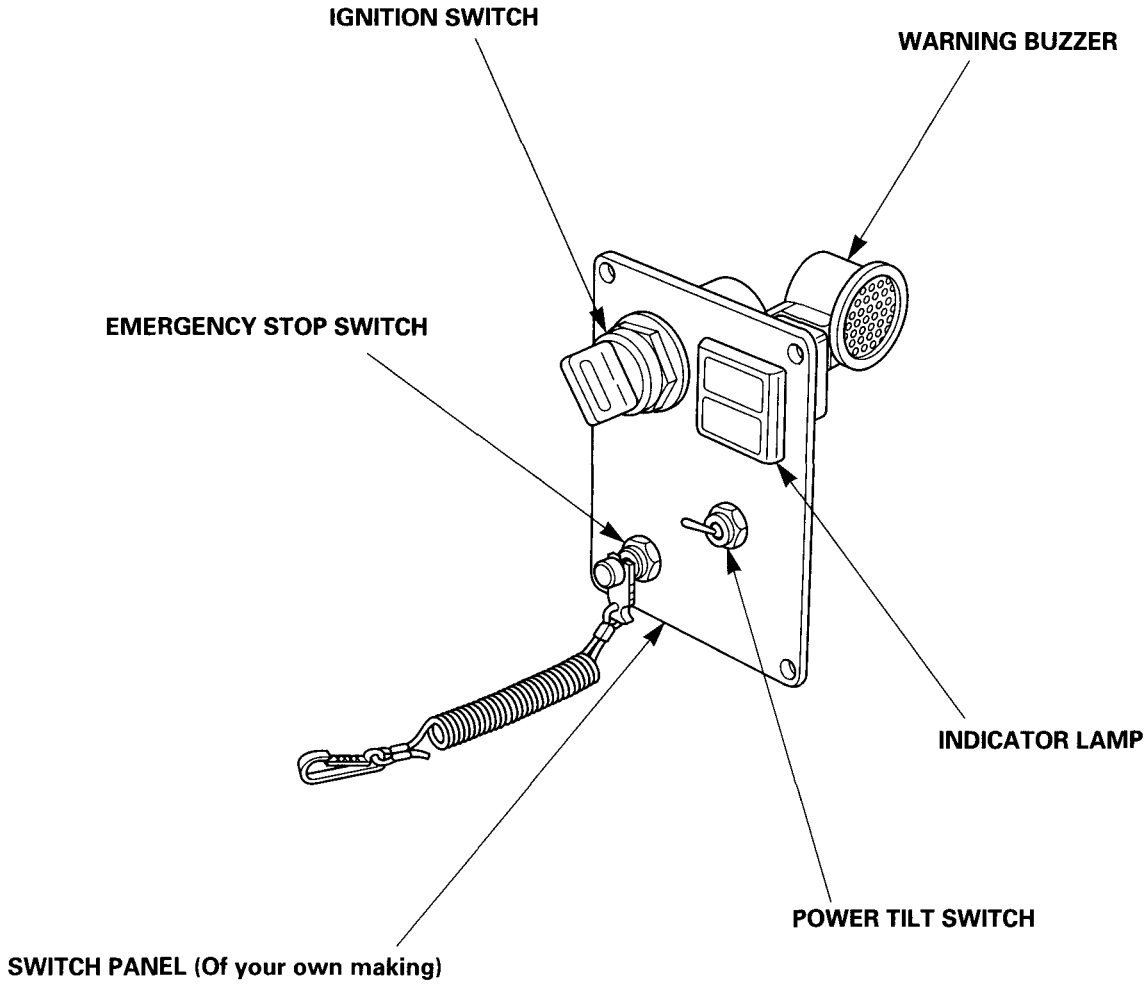
Wrap the terminal with a piece of vinyl tape.

## SWITCH PANEL

If your boat is equipped with a Binnacle or Flash mounting type remote control box, prepare the switch panel as follows to install the electrical parts and switches.

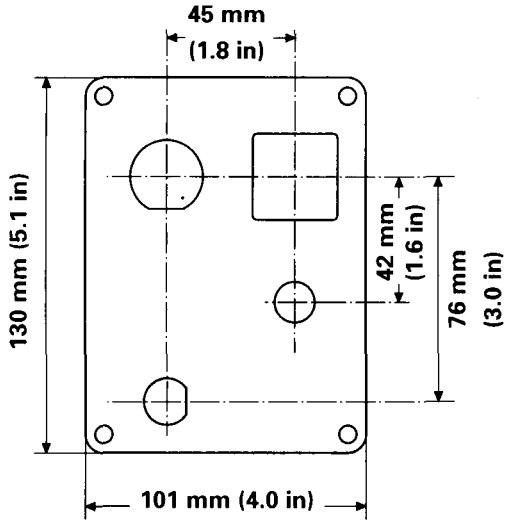
Part name

Ignition switch
Emergency stop switch
Indicator lamp
Buzzer
Power tilt switch (commercially available)
Control box wire harness



**RECOMMENDED SHAPE**

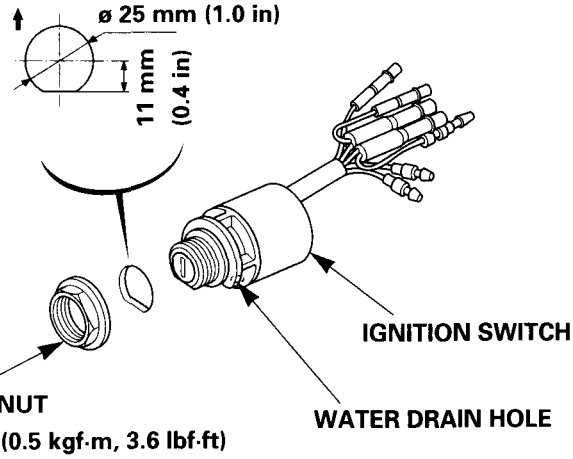
Use 3 mm (0.12 in) thick aluminum or stainless steel plate.




**INSTALLATION**

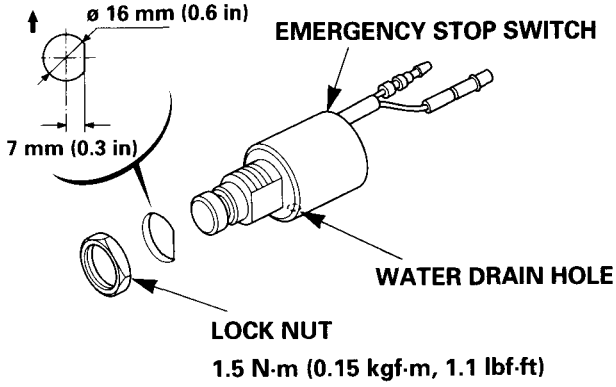
- **IGNITION SWITCH**

Drill the holes in the panel so that the switch can be installed with the drain hole facing down.

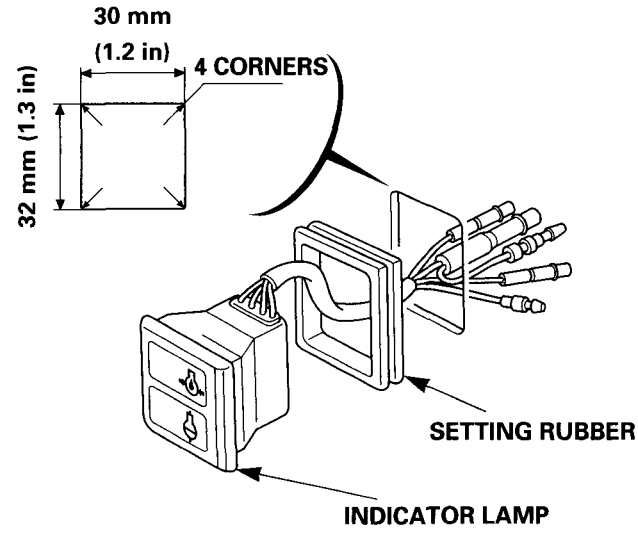



- **EMERGENCY STOP SWITCH**

Drill the holes in the panel so that the switch can be installed with the drain hole facing down.

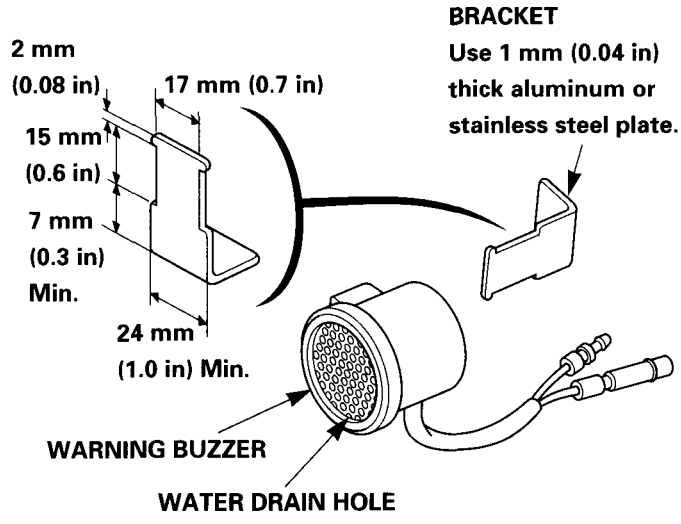



- **INDICATOR LAMP**




- **WARNING BUZZER**

Prepare the bracket of the dimensions shown, and install the warning buzzer with the drain hole toward down.




**POWER TILT SWITCH INSTALLATION**

Use a commercially available toggle switch.
Installation hole: 12 mm in diameter
Connecting terminal: JIS PA

**SWITCH WIRE HARNESS CONNECTION**

Connect the wire harness as per the wiring diagram shown on the following page.
Use the control box wire harness. Modify or correct the wire harness as necessary.

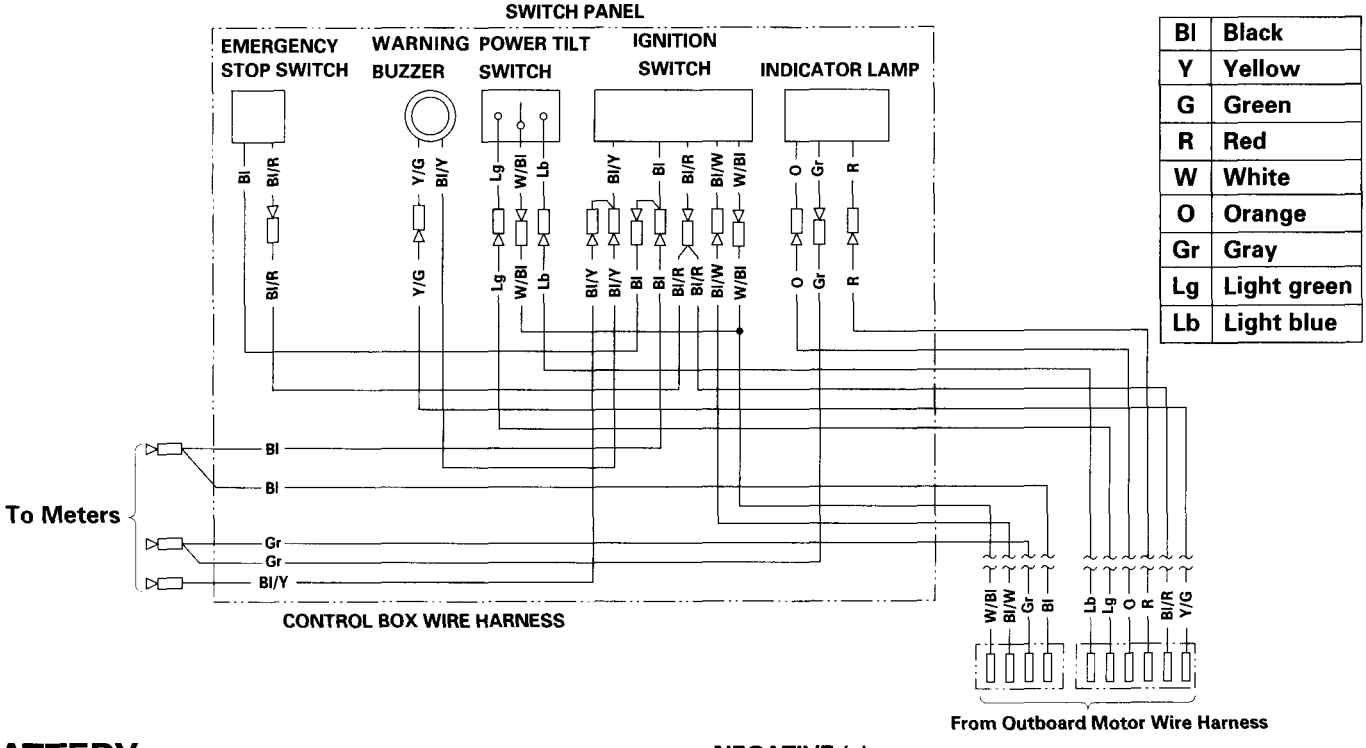
NOTE:

- Stake the lead wire against the terminal securely using the special tool.
- Use the 0.5 — 1.25 mm dia. lead wire to put them together. Solder the joint section and protect it by wrapping with a piece of insulation tape.

## SWITCH PANEL WIRING DIAGRAM

CAUTION:

- First, check whether the wire harnesses are connected as shown in the wiring diagram, then connect the battery and turn the power switch ON to check for proper condition of the electrical parts and wire harness.
- When the Honda recommended wire harness is used, connect the Black/Green and Light Green/Black terminals.
- Before reconnecting connectors, check them carefully to make sure that their terminals are not bent, exposed, or disconnected.
- Wrap the free terminal with a piece of vinyl tape or equivalent to insulate them securely.
- If a terminal is oxidized or corroded, remove the oxidation or corrosion with nonconductive plastic scrub pad and contact cleaner, before reconnecting it.
- Be sure to reconnect connectors by inserting them fully into their receptacles. Check locking connectors to be sure that locking device are locked in place securely.
- Check insulators to make sure they surround their connectors completely. Do not fold up the mouths of insulators.
- Before reconnecting wire connectors, check them to make sure that the covers are not torn or broken, and that the gaps of female terminals are not overly expanded and loose.
- Do not break the coverings of wire harness. If the covering of wire harness if broken, either repair it with electrician's tape, or replace it.




# BATTERY

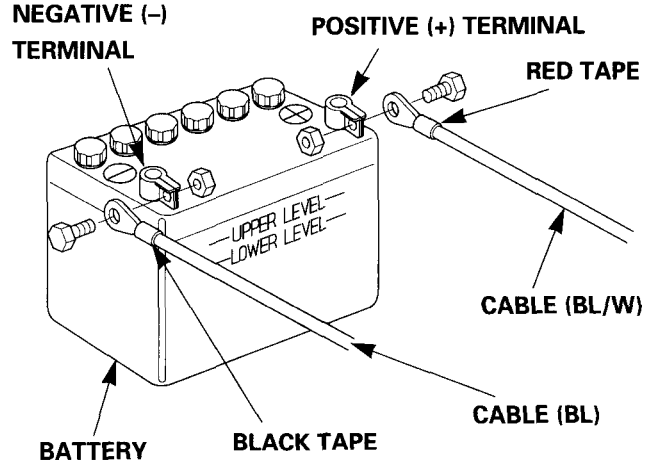
NOTE:

• Install the battery in a dry and well ventilated location.

Minimum requirements: 12 V — 35 Ah/20 HR

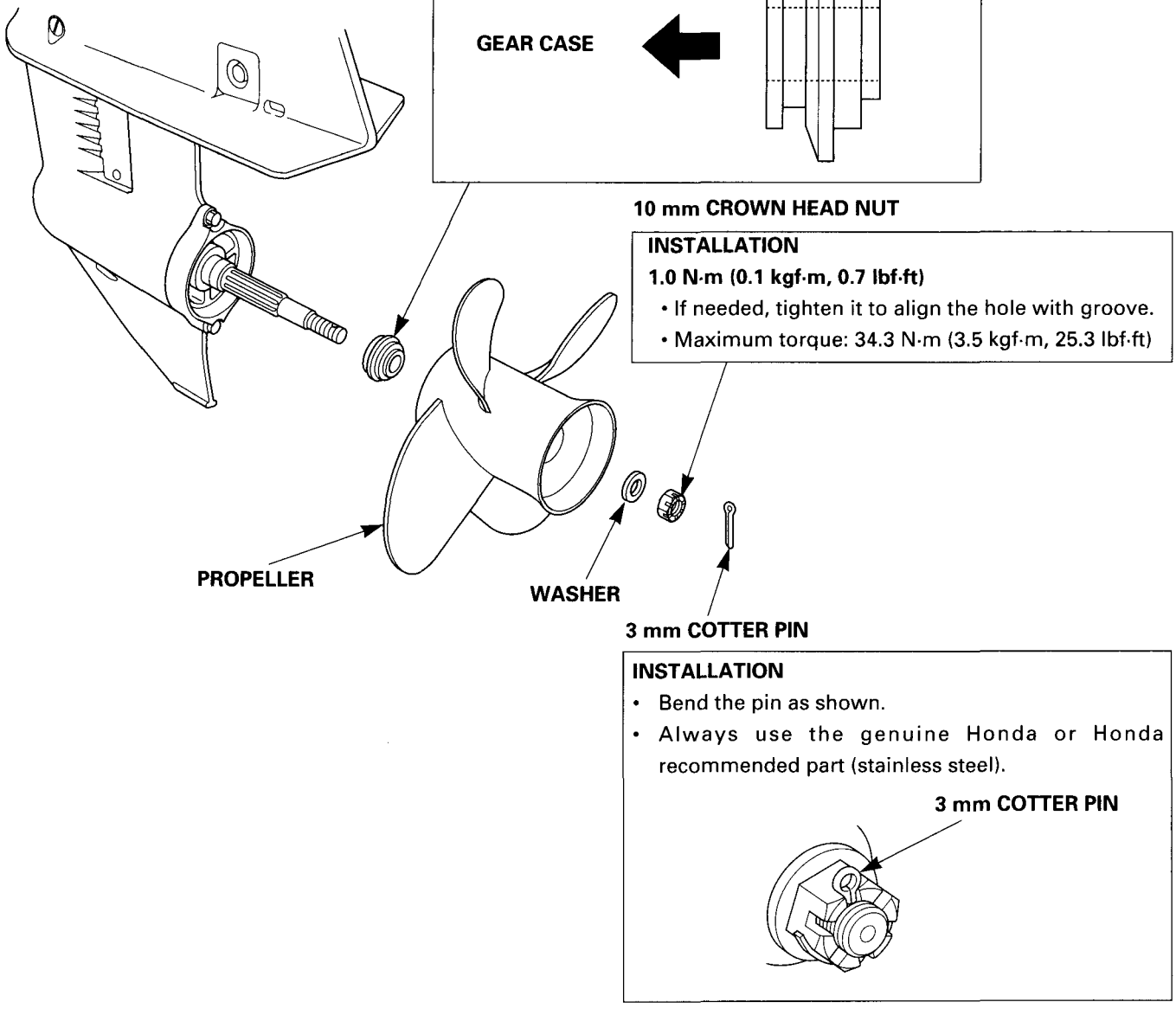
CAUTION:

• When connecting the battery cable, be sure to connect the positive (+) terminal first. To disconnect, disconnect at the negative (–) terminal first, then at positive (+) terminal. Never dis/connect the battery cables in the reverse order.



# 5. PROPELLER

## INSTALLATION


THRUST WASHER
INSTALLATION
• Install with the groove side facing to the gear case.
GEAR CASE
10 mm CROWN HEAD NUT
INSTALLATION
1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)
• If needed, tighten it to align the hole with groove.
• Maximum torque: 34.3 N·m (3.5 kgf·m, 25.3 lbf·ft)
PROPELLER
WASHER
3 mm COTTER PIN
INSTALLATION
• Bend the pin as shown.
• Always use the genuine Honda or Honda recommended part (stainless steel).
3 mm COTTER PIN

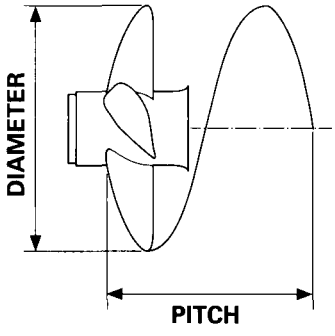
## SELECTION

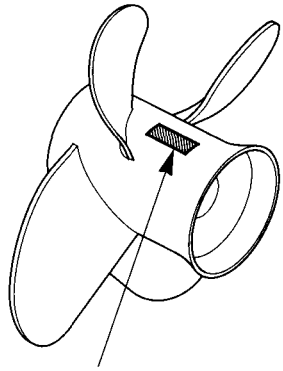
Selection of the optimum propeller in regards to boat characteristics and outboard motor performance is of utmost importance. To ensure smooth acceleration, top speed, smooth handling and good fuel economy, select a propeller which is designed for your boat size and outboard motor output. Confirm that the boat reaches its top speed at full throttle and in the maximum engine speed.

- **DESIRABLE PROPELLER CHARACTERISTICS**

- The ideal propeller should give top boating speed at moderate loads, with the throttle fully open, not exceeding the recommended engine speed.

**RECOMMENDED MAXIMUM ENGINE SPEED:**
**BF15D: 4,500 — 5,500 $min^{-1}$ (rpm)**
**BF20D: 5,000 — 6,000 $min^{-1}$ (rpm)**



**PROPELLER DIMENSIONS**
Diameter (in) x Pitch (in)

Pitch ..... Advanced Distance during One Turn
(Visual Advanced Distance)

Pitch Ratio..... $\frac{P}{D}$ P: Pitch (mm)
D: Outer Diameter of Propeller

Slip Ratio .....

$$\frac{\text{Visual Advanced Distance} - \text{Measured Distance}}{\text{Visual Advanced Distance}} \times 100$$

- During running the actually advanced distance is reduced by about 10 — 15 % due to propeller display pitch.

- **PRECAUTION WHEN SELECTING A PROPELLER**

- The outboard motor must be installed vertically in relation to the bottom of the boat.
- Protect the propeller from foreign objects, and check regularly for damages and deformation, and aquatic plants wrapped around the propeller hub.
- Keep the bottom of the boat clean from shells, algae growth and dirt (they will cause a significant drop in top speed).
- When doing propeller checks select a calm day with little wave action.
- Avoid strong winds; the wind speed should be less than 2 — 3 km/h (1.25 — 1.88 miles/h).
- The boat should carry its average load (crew, load arrangement, ballast).
- Perform the propeller check under the above conditions.

- **REQUIRED TOOLS FOR ACCELERATION TEST**

- For this test a tachometer, stopwatch and speedometer should be prepared (if there is no speedometer available, measure the elapsed time between two fixed points, whose distance from each other is known, and calculate the speed).

- **TOP SPEED CANNOT BE REACHED AT FULL THROTTLE**

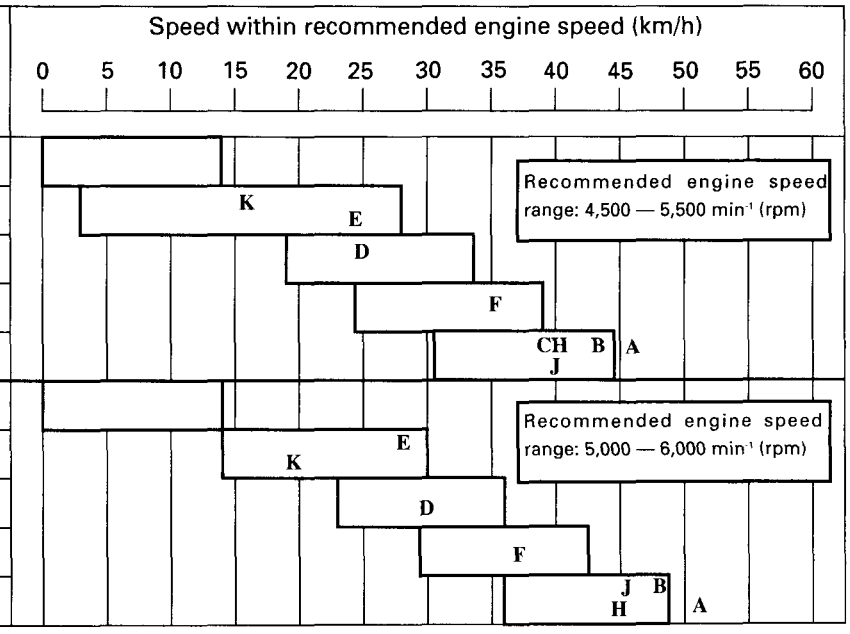
- In this case the propeller is not properly matched. Lower the propeller pitch by one size (1 — 2 inches), to avoid power loss and potential outboard motor damage.
- If it is necessary to lower the engine speed, select a propeller with a pitch one size larger.
- If the following cases occur, acceleration will improve and the life expectancy of the outboard motor will increase by lowering the propeller pitch.
  - — at heavy loads (Crew, load, equipment, water skiing, etc.)
  - — in places with high temperatures and high humidity
  - — when using in higher elevations
  - — when the boat bottom needs cleaning
  - — when the area around the gear case is obstructed
  - — when there is propeller damage.

NOTE:

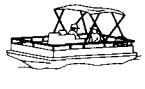
- Do not use full throttle, but run the outboard motor with 70 — 80 % of full throttle, to increase outboard motor life and to ensure safe navigation.

**Propeller Selection Chart**

| Model | Propeller size Dia. x pitch (in) | Transom type |
|---|---|---|
| BF15D | 9-1/4 x 7 | Optional |
| | 9-1/4 x 8 | Optional |
| | 9-1/4 x 9 | Optional |
| | 9-1/4 x 10 | Standard equipment |
| | 9-1/4 x 11 | Optional |
| BF20D | 9-1/4 x 7 | Optional |
| | 9-1/4 x 8 | Optional |
| | 9-1/4 x 9 | Optional |
| | 9-1/4 x 10 | Standard equipment |
| | 9-1/4 x 11 | Optional |




**Boat type and applicable size (length and weight)**

| Boat type | Hull shape (Example) | Overall length (ft) | Weight (kg) | Sample | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Code | Overall length (ft) | Weight (kg) | Presumed max. speed (km/h) | |
| | | | | | | | 15 PS | 20 PS |
| UTILITY | | 12 ~ 16 | 120 ~ 430 | A | 16 | 160 | 45 | 52 |
| | | | | B | 14 | 150 | 43 | 49 |
| | | | | C | 12 | 210 | 38 | |
| INFLATABLE | | 10 ~ 13 | 100 ~ 200 | D | 13 | 150 | 25 | 30 |
| | | | | E | 11 | 150 | 24 | 28 |
| FISHING | | 12 ~ 17 | 250 ~ 900 | F | 12 | 530 | 35 | 37 |
| MOTOR BOAT | | 8 ~ 15 | 210 ~ 300 | H | 15 | 300 | 40 | 45 |
| BASSBOAT | | 14 ~ 16 | 250 ~ 400 | J | 14 | 260 | 40 | 46 |
| PONTOON |  | 12 ~ 17 | 360 ~ 1200 | K | 16 | 850 | 16 | 19 |

Operating weight of the sample boat hull used to calculate the estimated maximum speed is calculated by adding the weight of the two occupants (+ 50 kg), weight of the outboard motor, and the weight of the equipment (+ 50) to the unit weight of the hull.

# 6. TRIM ANGLE ADJUSTMENT

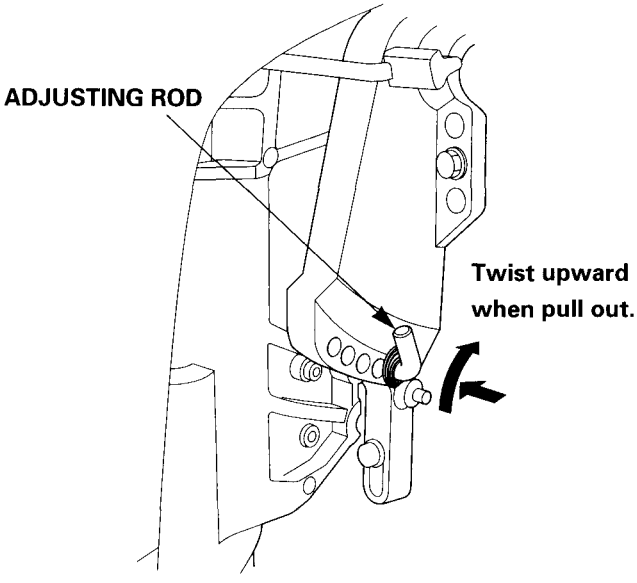
NOTE:

- Install the outboard motor so that the axis of the propeller is parallel with the water surface.

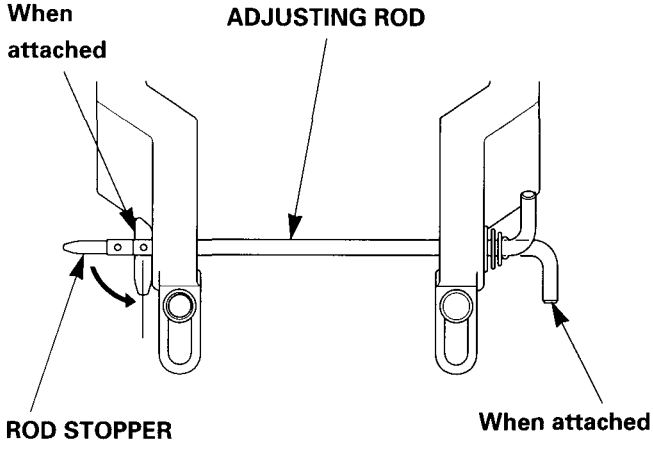
1. Push in the adjusting rod, then twist upward and pull it out to remove.
2. Adjust the outboard motor position so that the anti-cavitation plate is parallel to the bottom of the boat. Reposition the adjusting rod and secure it by folding the rod stopper down.

**No. of adjustment positions:**
**5 positions: (4°, 8°, 12°, 16°, 20°)**

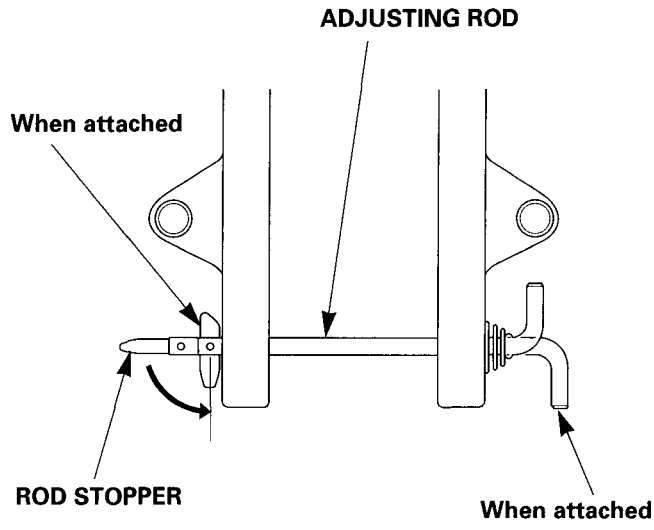
**Except Power tilt type and Gas-assisted tilt type:**




**Except Tiller handle S type, Power tilt type and Gas-assisted tilt type:**

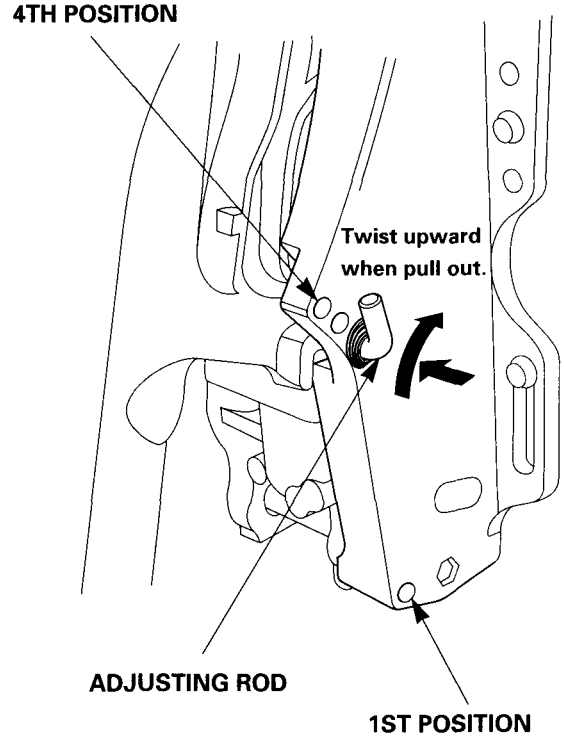


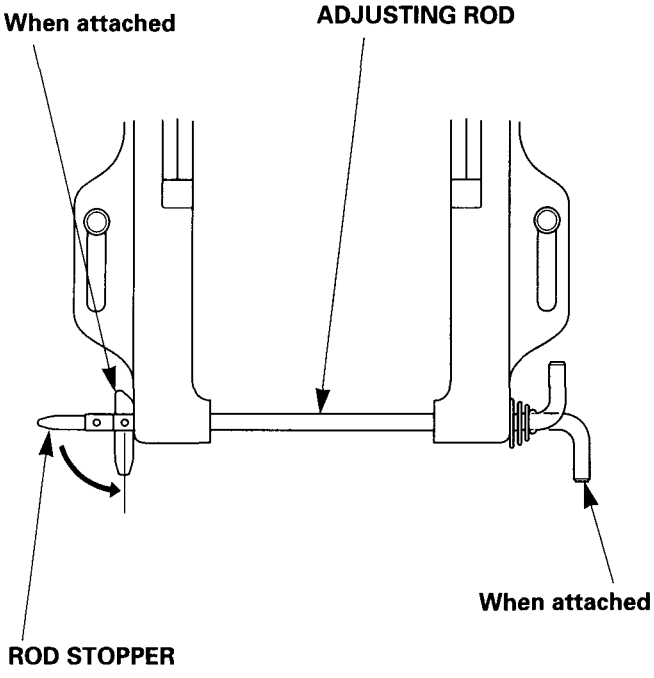

**Tiller handle S type only:**




**Power tilt type and Gas-assisted tilt type only:**

**No. of adjustment positions:**
**4 positions: ( 8°, 12°, 16°, 20°)**



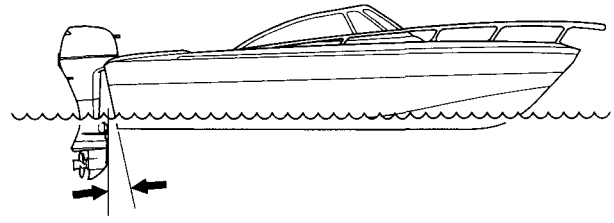



NOTE:

- The rod stopper of the adjusting rod must be at a 90 degree angle to the rod.
- After attaching make sure that the rod cannot come out, even if pulled.
- Adjust by repositioning the adjusting rod so that the anti-cavitation plate is parallel to the bottom of the boat.

- **CRUISING CHARACTERISTICS**

**< Correct >**



**Most stable cruising and max. performance**

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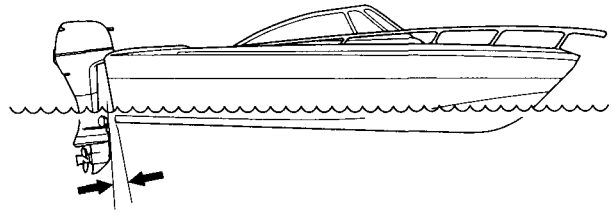
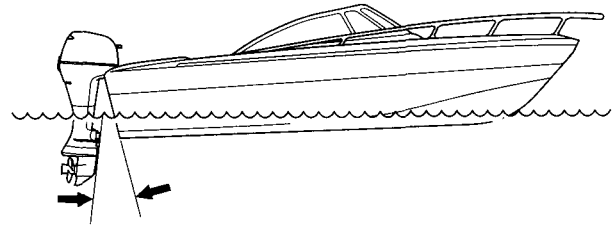


**Causes boat to plow**

**< Too large >**



**Causes boat to squat**

# 7. PRE-DELIVERY INSPECTION

Check all items on the following list.

- **ON LAND**

☐ EXTERNAL APPEARANCE
- Check for Transport Damage.
- Check for paint scratches, touch-up if necessary.

☐ GEAR OIL
- Check for proper gear oil level.
  OIL CAPACITY: Total: 0.285 lit. (0.30 US qt, 0.25 Imp qt)
  Change: 0.26 lit. (0.27 US qt, 0.23 Imp qt)

☐ INSTALLATION LOCATION
- Check for correct installation location.
- Check the outboard motor installation height for correct.
- Check the mounting bolt for looseness.
- Has sealant been applied to the bolt holes and lock nuts?

☐ FUEL SYSTEM
- Check that the fuel line is connected securely.
- Check for water in the fuel.
- Make sure that the fuel tank is filled with fresh gasoline.

☐ STEERING SYSTEM
- Check the steering system for smooth operation.
- Make sure that the outboard motor does not interfere with the control cables, wire harness, and/or pipes, etc.

☐ REMOTE CONTROL SYSTEM
- Check the remote control box for proper operation.
- Make sure that the gear shift operates properly with the control lever.
- Check that the throttle link operates correctly with remote control lever in full throttle and with the fast idle lever in "N"(NEUTRAL).

☐ TILLER HANDLE CONTROL SYSTEM
- Check the tiller handle for proper operation.
- Make sure that the gear shift operates properly with the gearshift lever.
- Check that the throttle link operates correctly with the throttle grip in full throttle.
- Make sure that the choke mechanism operates properly.

☐ ELECTRICAL SYSTEM
- Check the wire harness for proper connection.
- Check the battery connection for correctness.
- Make sure that the battery is installed securely.
- Make sure that the meters and switches are connected correctly.

☐ TILT MECHANISM

Power tilt type:
- Check whether the outboard motor tilts up/down by operating the tilt switch.
- Check for abnormal motor sound during tilting up/down the outboard motor.
- Turn the steering wheel right and left with the outboard motor tilted up and check the cables and harnesses for interference.
- Tilt up the outboard motor and check whether the power tilt oil level is at or within the specified range.
- Tilt up the outboard motor fully and check whether the tilt stopper functions.

Gas-assisted tilt type:
- Operate the tilt lever and check whether the outboard motor tilts up and down smoothly.
- Tilt up the outboard motor and check whether it is held in the position by setting the tilt lever in the "RUN" position.
- Check whether the tilt stopper functions with the outboard motor set in the full tilt-up position.

☐ ENGINE OIL
- Check the engine oil level.
  ENGINE OIL CAPACITY:
  Total: 1.3 lit. (1.37 US qt, 1.14 Imp qt)
  Change: 1.0 lit. (1.06 US qt, 0.88 Imp qt)

☐ PROPELLER
- Check for deformation (e.g. bend, etc.).
- Check for excessive wear.
- Check the castle nut for secure tightening.
- Check the cotter pin for any abnormality.

- **IN THE WATER**

☐ OUTBOARD MOTOR INSTALLATION
- Check that there is no water leak from the mounting bolt holes.
- Check the boat balanced.

☐ OUTBOARD MOTOR OPERATION

- Check the choke for proper operation.
- Turn the ignition switch to START, make sure that the outboard motor starts.
- Check the engine noise.
- Check if cooling water flows out from the water checking port.
- Check that the outboard motor runs smoothly at idle.
- Snap and check the outboard motor response.
- Check the emergency engine stop switch for proper operation.

☐ LEAKS

- Make sure that there is no leaks from the fuel line connections.
- Check the outboard motor for water leaks.
- Check the exhaust system for gas leaks.

- **DURING SEA TRIALS**

☐ OUTBOARD MOTOR OPERATION

- Check the idle speed.
  IDLE SPEED: 900 ± 50 $mm^{-1}$ (rpm)
- Check the gear shift operation with the remote control lever.
- Check the trolling speed.
- Go astern and check that the outboard motor does not tilt up and water does not overflow the transom.

☐ PROPELLER SELECTION

- Check the outboard motor speed under the user's operating condition.
  OUTBOARD MOTOR SPEED:
  BF15D: 4,500 — 5,500 $min^{-1}$ (rpm)
  BF20D: 5,000 — 6,000 $min^{-1}$ (rpm)
- Make sure that there is no cavitation during turning.

- **AFTER THE SEA TRIALS**

☐ Check that there is no water in the gear oil.

☐ Check that there is no signs of fuel or oil leaks.

☐ Cleaning the Outboard Motor

- Use a flushing kit to flush the cooling line with clean water, while the outboard motor is idling.
- Clean the engine outboard motor thoroughly with a cloth.
- Check the outboard external damages or defects, cracks.

# 8. BREAK-IN PROCEDURES

- The outboard motor break-in should be performed as follows, although it is usually done during the trial runs.

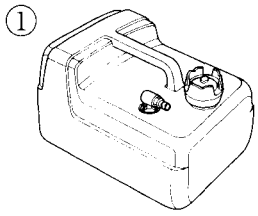
- For the initial 15 minutes: Run the outboard motor at idling or trolling speeds (i.e. the lowest possible speed).

- For the next 30 minutes: Run the outboard motor at 2,000 — 3,000 $min^{-1}$ (rpm) (with 10 % — 30 % of throttle).

- For the next to the second 60 minutes: Run the outboard motor at 4,000 — 5,000 $min^{-1}$ (rpm) (with 50 — 80 % of throttle).

- For the initial 10 hours: Avoid continuous full throttle (100 % throttle) operation for more than 5 minutes.

# 9. PARTS LIST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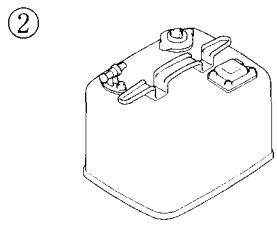
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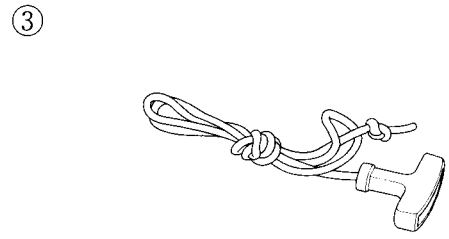
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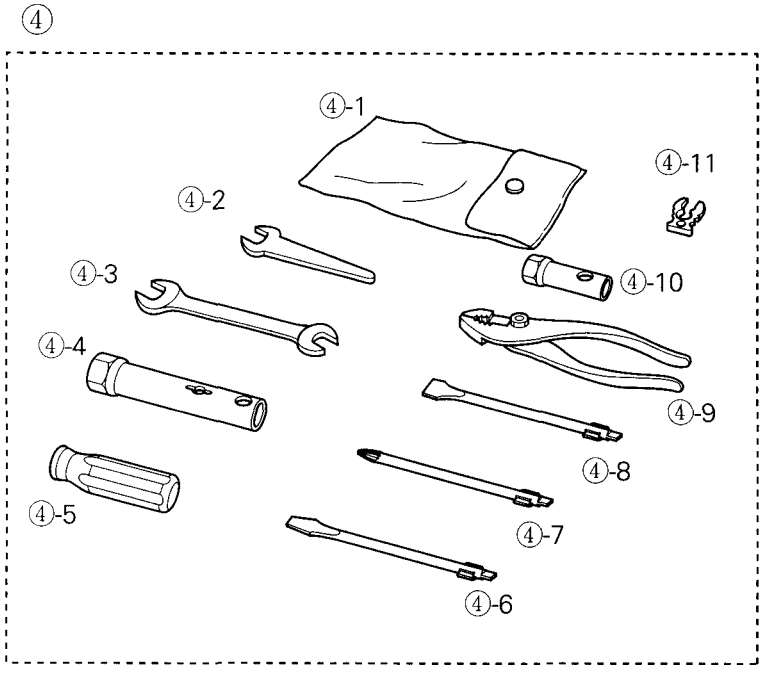
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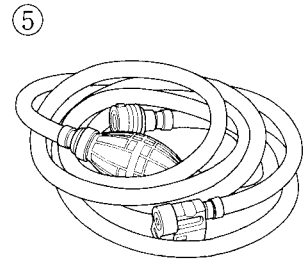
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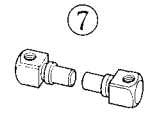
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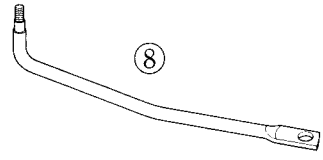
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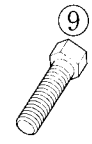
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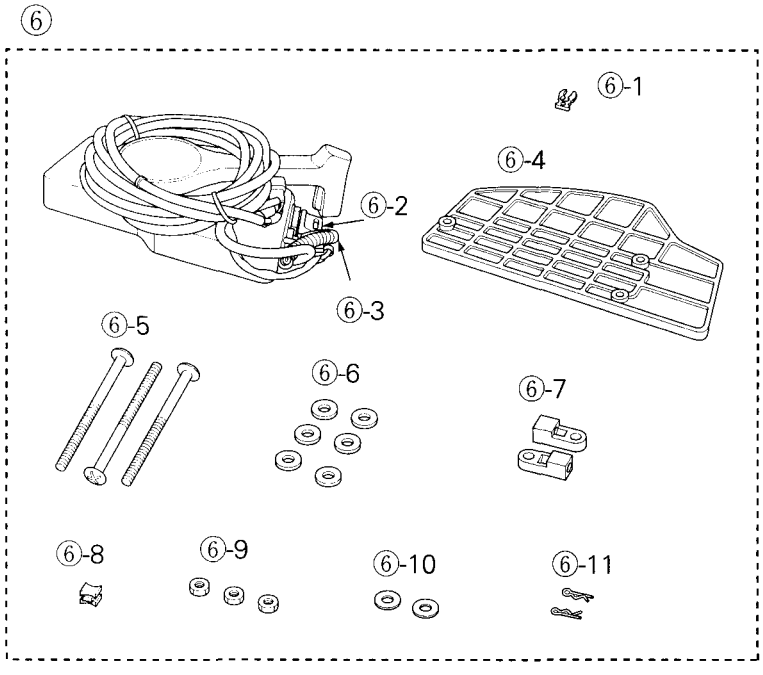
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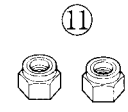
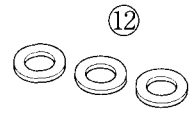
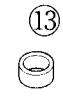
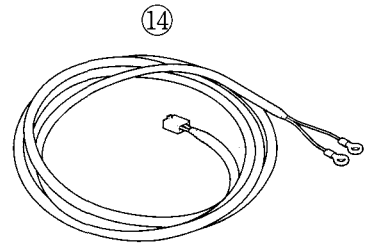
⑥-11

⑩


⑪


⑫


⑬


⑭

⑮

**BF15D:**

| No. | Part name | TYPE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SHE | LHE | SHSE | LHSE | SRE | LRE | SHGE | LHGE | LHTE | SRTE | LRTE |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-1 | Clip (Spare part) | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-2 | Engine switch key | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-3 | Emergency stop switch clip, curl cord | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-4 | Spacer | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-5 | 6 x 94 mm screw (Black) | | | | | 3 | 3 | | | | 3 | 3 |
| ⑥-6 | 6 mm washer | | | | | 6 | 6 | | | | 6 | 6 |
| ⑥-7 | Eye end | | | | | 2 | 2 | | | | 2 | 2 |
| ⑥-8 | Cable clamp spacer | | | | | 1 | 1 | | | | 1 | 1 |
| ⑥-9 | 6 mm nut | | | | | 3 | 3 | | | | 3 | 3 |
| ⑥-10 | 6 mm washer | | | | | 2 | 2 | | | | 2 | 2 |
| ⑥-11 | 6 mm lock pin | | | | | 2 | 2 | | | | 2 | 2 |
| ⑦ | Shift pivot | | | | | 2 | 2 | | | | 2 | 2 |
| ⑧ | Steering rod | | | | | 1 | 1 | | | | 1 | 1 |
| ⑨ | 3/8-24 UNF bolt | | | | | 1 | 1 | | | | 1 | 1 |
| ⑩ | 3/8-24 UNF nut | | | | | 1 | 1 | | | | 1 | 1 |
| ⑪ | 3/8-24 self lock nut | | | | | 2 | 2 | | | | 2 | 2 |
| ⑫ | 10 mm washer | | | | | 3 | 3 | | | | 3 | 3 |
| ⑬ | Steering rod collar | | | | | 1 | 1 | | | | 1 | 1 |
| ⑭ | Battery charge cord assembly | 1 | 1 | | | | | | | | | |
| ⑮ | Oil case grommet A | | | | | 1 | 1 | | | | 1 | 1 |

**BF15D:**

| No. | Part name | TYPE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | XRTE | SHD | LHD | SHSD | LHSD | LRD | SHGD | LHGD | LHTD |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | 1 | | | | | 1 | | | |
| ⑥-1 | Clip (Spare part) | 1 | | | | | 1 | | | |
| ⑥-2 | Engine switch key | 1 | | | | | 1 | | | |
| ⑥-3 | Emergency stop switch clip, curl cord | 1 | | | | | 1 | | | |
| ⑥-4 | Spacer | 1 | | | | | 1 | | | |
| ⑥-5 | 6 x 94 mm screw (Black) | 3 | | | | | 3 | | | |
| ⑥-6 | 6 mm washer | 6 | | | | | 6 | | | |
| ⑥-7 | Eye end | 2 | | | | | 2 | | | |
| ⑥-8 | Cable clamp spacer | 1 | | | | | 1 | | | |
| ⑥-9 | 6 mm nut | 3 | | | | | 3 | | | |
| ⑥-10 | 6 mm washer | 2 | | | | | 2 | | | |
| ⑥-11 | 6 mm lock pin | 2 | | | | | 2 | | | |
| ⑦ | Shift pivot | 2 | | | | | 2 | | | |
| ⑧ | Steering rod | 1 | | | | | 1 | | | |
| ⑨ | 3/8-24 UNF bolt | 1 | | | | | 1 | | | |
| ⑩ | 3/8-24 UNF nut | 1 | | | | | 1 | | | |
| ⑪ | 3/8-24 self lock nut | 2 | | | | | 2 | | | |
| ⑫ | 10 mm washer | 3 | | | | | 3 | | | |
| ⑬ | Steering rod collar | 1 | | | | | 1 | | | |
| ⑭ | Battery charge cord assembly | | 1 | 1 | | | | | | |
| ⑮ | Oil case grommet A | 1 | | | | | 1 | | | |

**BF15D:**

| No. | Part name | TYPE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SRTD | LRTD | SHC | LHC | SHSC | LHSC | SRC | LGC | SHGC | LHGC | XHGC |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | 1 | 1 | | | | | 1 | | | | |
| ⑥-1 | Clip (Spare part) | 1 | 1 | | | | | 1 | | | | |
| ⑥-2 | Engine switch key | 1 | 1 | | | | | 1 | | | | |
| ⑥-3 | Emergency stop switch clip, curl cord | 1 | 1 | | | | | 1 | | | | |
| ⑥-4 | Spacer | 1 | 1 | | | | | 1 | | | | |
| ⑥-5 | 6 x 94 mm screw (Black) | 3 | 3 | | | | | 3 | | | | |
| ⑥-6 | 6 mm washer | 6 | 6 | | | | | 6 | | | | |
| ⑥-7 | Eye end | 2 | 2 | | | | | 2 | | | | |
| ⑥-8 | Cable clamp spacer | 1 | 1 | | | | | 1 | | | | |
| ⑥-9 | 6 mm nut | 3 | 3 | | | | | 3 | | | | |
| ⑥-10 | 6 mm washer | 2 | 2 | | | | | 2 | | | | |
| ⑥-11 | 6 mm lock pin | 2 | 2 | | | | | 2 | | | | |
| ⑦ | Shift pivot | 2 | 2 | | | | | 2 | | | | |
| ⑧ | Steering rod | 1 | 1 | | | | | 1 | | | | |
| ⑨ | 3/8-24 UNF bolt | 1 | 1 | | | | | 1 | | | | |
| ⑩ | 3/8-24 UNF nut | 1 | 1 | | | | | 1 | | | | |
| ⑪ | 3/8-24 self lock nut | 2 | 2 | | | | | 2 | | | | |
| ⑫ | 10 mm washer | 3 | 3 | | | | | 3 | | | | |
| ⑬ | Steering rod collar | 1 | 1 | | | | | 1 | | | | |
| ⑭ | Battery charge cord assembly | | | 1 | 1 | | | | 1 | | | |
| ⑮ | Oil case grommet A | 1 | 1 | | | | | 1 | | | | |

**BF15D:**

| No. | Part name | TYPE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LRGC | XRGC | LHTC | XHTC | LRTC | XRTC | SHG | LHG | SHSG | LHSG | SRG |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | | | | | |
| ② | Fuel tank assembly | | | | | | | 1 | 1 | 1 | 1 | 1 |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-1 | Clip (Spare part) | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-2 | Engine switch key | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-3 | Emergency stop switch clip, curl cord | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-4 | Spacer | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-5 | 6 x 94 mm screw (Black) | 3 | 3 | | | 3 | 3 | | | | | 3 |
| ⑥-6 | 6 mm washer | 6 | 6 | | | 6 | 6 | | | | | 6 |
| ⑥-7 | Eye end | 2 | 2 | | | 2 | 2 | | | | | 2 |
| ⑥-8 | Cable clamp spacer | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑥-9 | 6 mm nut | 3 | 3 | | | 3 | 3 | | | | | 3 |
| ⑥-10 | 6 mm washer | 2 | 2 | | | 2 | 2 | | | | | 2 |
| ⑥-11 | 6 mm lock pin | 2 | 2 | | | 2 | 2 | | | | | 2 |
| ⑦ | Shift pivot | 2 | 2 | | | 2 | 2 | | | | | 2 |
| ⑧ | Steering rod | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑨ | 3/8-24 UNF bolt | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑩ | 3/8-24 UNF nut | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑪ | 3/8-24 self lock nut | 2 | 2 | | | 2 | 2 | | | | | 2 |
| ⑫ | 10 mm washer | 3 | 3 | | | 3 | 3 | | | | | 3 |
| ⑬ | Steering rod collar | 1 | 1 | | | 1 | 1 | | | | | 1 |
| ⑭ | Battery charge cord assembly | | | | | | | 1 | 1 | | | |
| ⑮ | Oil case grommet A | 1 | 1 | | | 1 | 1 | | | | | 1 |

**BF15D:**

| No. | Part name | TYPE | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | LRG | SHGG | LHGG | LHTG | SRTG | LRTG | XRTG |
| ① | Fuel tank assembly | | | | | | | |
| ② | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | 1 | | | | 1 | 1 | 1 |
| ⑥-1 | Clip (Spare part) | 1 | | | | 1 | 1 | 1 |
| ⑥-2 | Engine switch key | 1 | | | | 1 | 1 | 1 |
| ⑥-3 | Emergency stop switch clip, curl cord | 1 | | | | 1 | 1 | 1 |
| ⑥-4 | Spacer | 1 | | | | 1 | 1 | 1 |
| ⑥-5 | 6 x 94 mm screw (Black) | 3 | | | | 3 | 3 | 3 |
| ⑥-6 | 6 mm washer | 6 | | | | 6 | 6 | 6 |
| ⑥-7 | Eye end | 2 | | | | 2 | 2 | 2 |
| ⑥-8 | Cable clamp spacer | 1 | | | | 1 | 1 | 1 |
| ⑥-9 | 6 mm nut | 3 | | | | 3 | 3 | 3 |
| ⑥-10 | 6 mm washer | 2 | | | | 2 | 2 | 2 |
| ⑥-11 | 6 mm lock pin | 2 | | | | 2 | 2 | 2 |
| ⑦ | Shift pivot | 2 | | | | 2 | 2 | 2 |
| ⑧ | Steering rod | 1 | | | | 1 | 1 | 1 |
| ⑨ | 3/8-24 UNF bolt | 1 | | | | 1 | 1 | 1 |
| ⑩ | 3/8-24 UNF nut | 1 | | | | 1 | 1 | 1 |
| ⑪ | 3/8-24 self lock nut | 2 | | | | 2 | 2 | 2 |
| ⑫ | 10 mm washer | 3 | | | | 3 | 3 | 3 |
| ⑬ | Steering rod collar | 1 | | | | 1 | 1 | 1 |
| ⑭ | Battery charge cord assembly | | | | | | | |
| ⑮ | Oil case grommet A | 1 | | | | 1 | 1 | 1 |

**BF20D:**

| No. | Part name | TYPE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SHE | LHE | SHSE | LHSE | SRE | LRE | LGE | SHGE | LHGE | SHTE | LHTE | SRTE |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | | | | | 1 | 1 | | | | | | 1 |
| ⑥-1 | Clip (Spare part) | | | | | 1 | 1 | | | | | | 1 |
| ⑥-2 | Engine switch key | | | | | 1 | 1 | | | | | | 1 |
| ⑥-3 | Emergency stop switch clip, curl cord | | | | | 1 | 1 | | | | | | 1 |
| ⑥-4 | Spacer | | | | | 1 | 1 | | | | | | 1 |
| ⑥-5 | 6 x 94 mm screw (Black) | | | | | 3 | 3 | | | | | | 3 |
| ⑥-6 | 6 mm washer | | | | | 6 | 6 | | | | | | 6 |
| ⑥-7 | Eye end | | | | | 2 | 2 | | | | | | 2 |
| ⑥-8 | Cable clamp spacer | | | | | 1 | 1 | | | | | | 1 |
| ⑥-9 | 6 mm nut | | | | | 3 | 3 | | | | | | 3 |
| ⑥-10 | 6 mm washer | | | | | 2 | 2 | | | | | | 2 |
| ⑥-11 | 6 mm lock pin | | | | | 2 | 2 | | | | | | 2 |
| ⑦ | Shift pivot | | | | | 2 | 2 | | | | | | 2 |
| ⑧ | Steering rod | | | | | 1 | 1 | | | | | | 1 |
| ⑨ | 3/8-24 UNF bolt | | | | | 1 | 1 | | | | | | 1 |
| ⑩ | 3/8-24 UNF nut | | | | | 1 | 1 | | | | | | 1 |
| ⑪ | 3/8-24 self lock nut | | | | | 2 | 2 | | | | | | 2 |
| ⑫ | 10 mm washer | | | | | 3 | 3 | | | | | | 3 |
| ⑬ | Steering rod collar | | | | | 1 | 1 | | | | | | 1 |
| ⑭ | Battery charge cord assembly | 1 | 1 | | | | | 1 | | | | | |
| ⑮ | Oil case grommet A | | | | | 1 | 1 | | | | | | 1 |

**BF20D:**

| No. | Part name | TYPE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LRTE | XRTE | SHD | LHD | SHSD | LHSD | SRD | LRD | LGD | SHGD | LHGD |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-1 | Clip (Spare part) | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-2 | Engine switch key | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-3 | Emergency stop switch clip, curl cord | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-4 | Spacer | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-5 | 6 x 94 mm screw (Black) | 3 | 3 | | | | | 3 | 3 | | | |
| ⑥-6 | 6 mm washer | 6 | 6 | | | | | 6 | 6 | | | |
| ⑥-7 | Eye end | 2 | 2 | | | | | 2 | 2 | | | |
| ⑥-8 | Cable clamp spacer | 1 | 1 | | | | | 1 | 1 | | | |
| ⑥-9 | 6 mm nut | 3 | 3 | | | | | 3 | 3 | | | |
| ⑥-10 | 6 mm washer | 2 | 2 | | | | | 2 | 2 | | | |
| ⑥-11 | 6 mm lock pin | 2 | 2 | | | | | 2 | 2 | | | |
| ⑦ | Shift pivot | 2 | 2 | | | | | 2 | 2 | | | |
| ⑧ | Steering rod | 1 | 1 | | | | | 1 | 1 | | | |
| ⑨ | 3/8-24 UNF bolt | 1 | 1 | | | | | 1 | 1 | | | |
| ⑩ | 3/8-24 UNF nut | 1 | 1 | | | | | 1 | 1 | | | |
| ⑪ | 3/8-24 self lock nut | 2 | 2 | | | | | 2 | 2 | | | |
| ⑫ | 10 mm washer | 3 | 3 | | | | | 3 | 3 | | | |
| ⑬ | Steering rod collar | 1 | 1 | | | | | 1 | 1 | | | |
| ⑭ | Battery charge cord assembly | | | 1 | 1 | | | | | 1 | | |
| ⑮ | Oil case grommet A | 1 | 1 | | | | | 1 | 1 | | | |

**BF20D:**

| No. | Part name | TYPE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SHTD | LHTD | SRTD | LRTD | XRTD | SHC | LHC | SHSC | LHSC | SRC | LGC |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ② | Fuel tank assembly | | | | | | | | | | | |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-1 | Clip (Spare part) | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-2 | Engine switch key | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-3 | Emergency stop switch clip, curl cord | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-4 | Spacer | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-5 | 6 x 94 mm screw (Black) | | | 3 | 3 | 3 | | | | | 3 | |
| ⑥-6 | 6 mm washer | | | 6 | 6 | 6 | | | | | 6 | |
| ⑥-7 | Eye end | | | 2 | 2 | 2 | | | | | 2 | |
| ⑥-8 | Cable clamp spacer | | | 1 | 1 | 1 | | | | | 1 | |
| ⑥-9 | 6 mm nut | | | 3 | 3 | 3 | | | | | 3 | |
| ⑥-10 | 6 mm washer | | | 2 | 2 | 2 | | | | | 2 | |
| ⑥-11 | 6 mm lock pin | | | 2 | 2 | 2 | | | | | 2 | |
| ⑦ | Shift pivot | | | 2 | 2 | 2 | | | | | 2 | |
| ⑧ | Steering rod | | | 1 | 1 | 1 | | | | | 1 | |
| ⑨ | 3/8-24 UNF bolt | | | 1 | 1 | 1 | | | | | 1 | |
| ⑩ | 3/8-24 UNF nut | | | 1 | 1 | 1 | | | | | 1 | |
| ⑪ | 3/8-24 self lock nut | | | 2 | 2 | 2 | | | | | 2 | |
| ⑫ | 10 mm washer | | | 3 | 3 | 3 | | | | | 3 | |
| ⑬ | Steering rod collar | | | 1 | 1 | 1 | | | | | 1 | |
| ⑭ | Battery charge cord assembly | | | | | | 1 | 1 | | | | 1 |
| ⑮ | Oil case grommet A | | | 1 | 1 | 1 | | | | | 1 | |

**BF20D:**

| No. | Part name | TYPE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LHGC | XHGC | LRGC | XRGC | LHTC | XHTC | LRTC | XRTC | SHG | LHG | SHSG |
| ① | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| ② | Fuel tank assembly | | | | | | | | | 1 | 1 | 1 |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-1 | Clip (Spare part) | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-2 | Engine switch key | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-3 | Emergency stop switch clip, curl cord | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-4 | Spacer | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-5 | 6 x 94 mm screw (Black) | | | 3 | 3 | | | 3 | 3 | | | |
| ⑥-6 | 6 mm washer | | | 6 | 6 | | | 6 | 6 | | | |
| ⑥-7 | Eye end | | | 2 | 2 | | | 2 | 2 | | | |
| ⑥-8 | Cable clamp spacer | | | 1 | 1 | | | 1 | 1 | | | |
| ⑥-9 | 6 mm nut | | | 3 | 3 | | | 3 | 3 | | | |
| ⑥-10 | 6 mm washer | | | 2 | 2 | | | 2 | 2 | | | |
| ⑥-11 | 6 mm lock pin | | | 2 | 2 | | | 2 | 2 | | | |
| ⑦ | Shift pivot | | | 2 | 2 | | | 2 | 2 | | | |
| ⑧ | Steering rod | | | 1 | 1 | | | 1 | 1 | | | |
| ⑨ | 3/8-24 UNF bolt | | | 1 | 1 | | | 1 | 1 | | | |
| ⑩ | 3/8-24 UNF nut | | | 1 | 1 | | | 1 | 1 | | | |
| ⑪ | 3/8-24 self lock nut | | | 2 | 2 | | | 2 | 2 | | | |
| ⑫ | 10 mm washer | | | 3 | 3 | | | 3 | 3 | | | |
| ⑬ | Steering rod collar | | | 1 | 1 | | | 1 | 1 | | | |
| ⑭ | Battery charge cord assembly | | | | | | | | | 1 | 1 | |
| ⑮ | Oil case grommet A | | | 1 | 1 | | | 1 | 1 | | | |

**BF20D:**

| No. | Part name | TYPE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LHSG | SRG | LRG | SHGG | LHGG | SHTG | LHTG | SRTG | LRTG | XRTG |
| ① | Fuel tank assembly | | | | | | | | | | |
| ② | Fuel tank assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ③ | Starter rope comp. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④ | Tool kit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-1 | Tool bag | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-2 | 8 mm single ended spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-3 | 10 x 12 mm spanner | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-4 | Plug wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-5 | Grip | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-6 | Screw driver (–) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-7 | Screw driver (+) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-8 | Oil check driver | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-9 | Plier | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-10 | 10 mm box wrench | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ④-11 | Clip (Spare part) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑤ | Fuel tank tube assembly | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ⑥ | Remote control box assembly | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-1 | Clip (Spare part) | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-2 | Engine switch key | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-3 | Emergency stop switch clip, curl cord | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-4 | Spacer | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-5 | 6 x 94 mm screw (Black) | | 3 | 3 | | | | | 3 | 3 | 3 |
| ⑥-6 | 6 mm washer | | 6 | 6 | | | | | 6 | 6 | 6 |
| ⑥-7 | Eye end | | 2 | 2 | | | | | 2 | 2 | 2 |
| ⑥-8 | Cable clamp spacer | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑥-9 | 6 mm nut | | 3 | 3 | | | | | 3 | 3 | 3 |
| ⑥-10 | 6 mm washer | | 2 | 2 | | | | | 2 | 2 | 2 |
| ⑥-11 | 6 mm lock pin | | 2 | 2 | | | | | 2 | 2 | 2 |
| ⑦ | Shift pivot | | 2 | 2 | | | | | 2 | 2 | 2 |
| ⑧ | Steering rod | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑨ | 3/8-24 UNF bolt | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑩ | 3/8-24 UNF nut | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑪ | 3/8-24 self lock nut | | 2 | 2 | | | | | 2 | 2 | 2 |
| ⑫ | 10 mm washer | | 3 | 3 | | | | | 3 | 3 | 3 |
| ⑬ | Steering rod collar | | 1 | 1 | | | | | 1 | 1 | 1 |
| ⑭ | Battery charge cord assembly | | | | | | | | | | |
| ⑮ | Oil case grommet A | | 1 | 1 | | | | | 1 | 1 | 1 |